#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 24.05.95 Edition Test oil : ISO 4113

Combination No. : 0 402 946 302

Injection pump

Pump designation : PES6P120A720LS8514 EP type number : 0 412 926 210

Governor

Governer design. : RQV250...950PA1209K

Governer no. : 0 421 815 972

Cust. part No. : 1369074

Customer-spec. information Customer : SCANIA Motor : DSC1206

TEST BENCH REQUIPEMENTS

Inlet line : EHAB

Test oil inlet

temp. °C Tolerance °C

Overflow valve : 2 417 413 082

Inlet press. bar : 2.5

Test nozzle holde

assembly : 1 688 901 104

Opening pressure

251.5 bar Tolerance bar : + 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

26.0 Test pressure bar : Tolerance bar : +- 1.0

Prestroke mm : 4.00 Tolerance mm : + 0.05

test only : +- 0.10

Rack travel in mm: 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

: +- 0.30 Tolerance

Check

: +- 0.50 tolerance "NW

Start of delivery blocking

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 825

Rack travel in mm: 13.45 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 375.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s. : +- 4.0

Spreed Tolerance cm3/1000 strokes : 8.0	Rated speed rpm : 1310 guide sleeve travel mm : 13.50 Tolerance mm : + 0.50
Check tolerance cm3/1000s. : 12.0	- Tolerance mm : + 0.50
	- GUIDE SLEEVE POSITION
Rated speed rpm : 250	- Rated speed rpm : 1154
Rack travel in mm: 4.60 Tolerance mm: + 0.30	- - Rack travel in mm : 12.45
Del. quantity cm3/1000 strokes : 22.0	- Tolerance mm : +- 1.30
Tolerance	
cm3/1000 strokes : → 3.0 → Check tolerance	- FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000s. : +- 6.0 +- 5preed	- Rated speed rpm : 825 - Aneroid pressure
Tolerance cm3/1000 strokes : 4.0	- hPa : 1500 - Del. quantity
Check tolerance	- cm3/1000 strokes : 375.0
cm3/1000s. : 8.0 +	- Tolerance - cm3/1000 strokes : +- 1.0
(B) SETTING OF INJECTION PUMP	- Check tolerance - cm3/1000s. : ← 4.0
WITH GOVERNOR	- Spreed - Tolerance
	- cm3/1000 strokes : 8.0
GUIDE SLEEVE TRAVEL	Check tolerance : 12.0
Rated speed rpm : 250 + guide sleeve +	
travel mm : 1.67 Tolerance mm : + 0.25	RATED SPEED
Rated speed rpm : 1017	control lever
guide sleeve travel mm : 9.08	position degree : 61.0 tolerance degree : +- 4.0
Tolerance mm : $\leftarrow$ 0.25	control lever
Rated speed rpm : 661 guide sleeve	position degree : 115.0 tolerance degree : +- 4.0
travel mm : 5.50	
Tolerance mm : + 0.25	rack travel mm : 11.70 Rated speed rpm : 995
Rated speed rpm : 302 + guide sleeve +	Tolerance 1/min : + 5
travel mm : 2.44  Tolerance mm : ← 0.25	rack travel mm : 4.00 Rated speed rpm : 1110
†	Tolerance 1/min : + 15
Rated speed rpm : 352 guide steeve	rack travel mm : 0.50
travel mm : 3.14 + Tolerance mm : + 0.25 +	Tolerance mm : +- 0.50 Rated speed rpm : 1200
Rated speed rpm : 390	
guide steeve	LOW IDLE
travel mm : 3.50 Tolerance mm : +- 0.25	

		1		
control lever		I Pro	essure hPa	: 700
position degree	: 72.0		k travel mm	
tolerance degree	: + 4.0		erance nm	
		+		
control lever		+		
position degree	: 18.0	† STA	RT CUT-OUT	
tolerance degree	: +- 4.0	† 8-4		470
Testing:		+ Kati	ed speed rpm	: < 170
restrig.			ed 1/min	: < 190
Rated speed rpm	: 250	1		
rack travel mm	: 4.60	+		
Tolerance mm	: +- 0.30	+ FUE	L DELIVERY CHAP	RACTERISTICS
	450	† .	• .	
Rated speed rpm	: 150	+ Ane. + hPa	roid pressure	1500
CRT mm min.	. > 5.65	4	ed speed rpm	: 1500
CIVI HAR THEFT.			. quantity	. 070
Rated speed rpm	: 275	‡ cm3.	/1000 strokes	: 378.0
	-	+ Tole	erance	
			/1000 strokes	: +- 4.0
TORQUE CONTROL			ck tolerance	
Ontad anasi	. 000	† cm3.	7/1000s.	: +- 6.0
Rated speed rpm rack travel mm		I Anai	roid pressure	
Tolerance mm		+ hPa		: 1500
rocci di loc nan	. 0.03	•	ed speed rpm	: 950
Rated speed rpm	: 650		. quantity	
rack travel mm	: 12.55	+ cm3.	/1000 strokes	: 331.0
Tolerance mm	: ← 0.10		erance	
<b>n</b>	050	7	/1000 strokes	: +- 4.0
Rated speed rpm			ck tolerance	: + 6.0
rack travel mm Tolerance mm		I cm3/	/1000s.	: + 6.0
roce: arice min	0.10	Anei	roid pressure	
		hPa	•	: -
ANEROID/ALTITUDE		+ Rate	ed speed rpm	: 950
COMPENSATOR TEST			. quantity	
			/1000 strokes	: 15.0
CETTING			erance /1000 strokes	· + 15 0
SETTING		I cm3/	THUUU SCHUKES	. == (J.U
Rated speed rpm	: 825	Aner	roid pressure	
Pressure hPa	: 1500	hPa	•	: -
rack travel mm	: 13.45		ed speed rpm	: 500
Tolerance mm	: <b>←</b> 0.10		. quantity	407.0
		•	/1000 strokes	: 197.0
MEASUREMENT			erance /1000 strokes	: + 1.0
Pressure hPa	• -		ck tolerance	1.0
Rated speed rom	825		/1000s.	: +- 4.0
rack travel mm		+ *****		
Tolerance mm	: +- 0.20			
		+ BREA	AKAWAY	
Rated speed rpm	: 825	†		
Onocouro boo	: 435	† Danie	k travel in mm	: 11.70
Pressure hPa rack travel mm	: 435 : 8.90	1	ed speed rpm	
Tolerance mm	: +- 0.15			· +- 5
TOTOL GILLOC HEIL	. 0.15	, , , , ,	rominado iruffif	-

# STARTING FUEL DELIVERY

Reted speed rpm : 100 rack travel mm : 10.20 Tolerance mm : + 0.50

# LOW IDLE

250 Ratad speed rpm : 4.60 rack travel mm : Toterance mm : + 0.30 Del. quantity cm3/1000 strokes : 22.0 Tolerance cm3/1000 strokes :  $\leftarrow$  3.0 Check tolerance cm3/1000s. : +- 6.0 Spreed Tolerance cm3/1000 strokes : 4.0 Check tolerance 8.0 cm3/1000s.

BOSCH INJ. PUMP TEST SPECIFICATIONS Outside diameter : 6.0 Note remarks x inside diameter: 2.0 x length mm : 600 Refer to Service Info for test and adjustment instructions. See microcard(s) W400/... REMARKS : 16.03.94 Edition : ISO 4113 Test oil Combination No. : 0 403 444 145 (A) INJECTION PUMP SETTING VALUES Set equal delivery quant. per values \_\_\_\_ Injection pump Pump designation : PES4MW100/320RS1199 EP type number : 0 413 404 112 BEGINNING OF DELIVERY Governor Governer design. : RQV300...1100MW131K Test pressure bar : Governer no. : 0 420 083 987 Tolerance bar : +- 1.0 Cust. part No. Prestroke mm 3.35 Tolerance mm : +- 0.05 Customer-spec. information test only : +- 0.10: PERKINS Customer Rack travel in mm: 13.00 : VME Motor Tolerance mm : + 1.00 Power KW : 74.0 Firing order : 1-3-4-2 TEST BENCH REQUIREMENTS : 0-90-180-270 Inlet line : 3.1 Phasing Tolerance : ← 0.50 Check tolerance \*NW : **←** 0.75 Test oil inlet 40 temp. °C Tolerance °C : +- 2.0 Start of delivery blocking \*NW before FB : 48.50 Overflow valve : 1 419 992 198 Barrel no. : 1 Inlet press. bar : 1.5 BASIC SETTING Overflow quantity min. L/h 100 Rated speed rpm : 1100 Test nozzle holde Rack travel in mm: 12.95 : 1 688 901 101 assembly Tolerance mm : ← 0.05 Del. quantity Opening pressure 208.5 cm3/1000 strokes : 128.0 bar Tolerance bar 1.5 Tolerance cm3/1000 strokes : + 1.0 Test Lines : 1 680 750 008

Check tolerance cm3/1000s.	: + 3.0	guide sleeve travel mm : 13.50 Tolerance mm : +- 0.50
Spreed	+	
Tolerance cm3/1000 strokes	: 3.5	GUIDE SLEEVE POSITION
Check tolerance cm3/1000s.	: 6.0	Rated speed rpm : 1170
Del. quantity	1	Rack travel in mm : 16.50 Tolerance mm : +- 1.30
cm3/1000 strokes Tolerance	: 18.0	Total and and
cm3/1000 strokes Check tolerance	: +- 2.0	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000s. Spreed	: + 4.5	Rated speed rpm : 1100 Aneroid pressure
Tolerance cm3/1000 strokes	: 3.5	hPa : 900 Del. quantity
Check tolerance cm3/1000s.	: 5.5	cm3/1000 strokes : 128.0 Tolerance
		cm3/1000 strokes : +- 1.0 Check tolerance
(B) SETTING OF IN WITH GOVERNOR	NECTION PUMP	cm3/1000s. : +- 3.0 Spreed
		Tolerance cm3/1000 strokes : 3.5
GUIDE SLEEVE TRAV	/EL	Check tolerance
Rated speed rpm guide sleeve	: 300	cm3/1000s. : 6.0
travel mm	: 1.78	RATED SPEED
Tolerance mm	: + 0.25	
Rated speed rpm guide sleeve	: 1156	control lever position degree : 117.0
travel mm	: 10.48	tolerance degree : +- 4.0
Tolerance mm	: +- 0.25	toterance degree . 4.0
	1	rack travel mm : 11.90
Rated speed rpm guide sleeve	: 738	Rated speed rpm : 1145 Tolerance 1/min : + 5
travel mm	: 5.47	
Tolerance mm		rack travel mm : 4.00
	+	Rated speed rpm : 1225
Rated speed rpm guide sleeve	+	Tolerance 1/min : + 15
travel mm	: 1.92	rack travel mm : 0.50
Tolerance mm	: + 0.25	Tolerance mm : + 0.50 Rated speed rpm : 1300
Rated speed rom guide sleeve	+	
travel mm	: 2.52	LOW IDLE
Tolerance mm	: ← 0.25	
Rated speed rpm guide sleeve	: 410	control lever position degree : 70.0
travel mm	: 3.05	tolerance degree : + 4.0
Tolerance mm		to con united degree
COSCI GITOS TING	. 0.23	Testing:
Rated speed rpm	: 1340	

Rated speed rpm	: 300	+		
rack travel mm Tolerance mm		‡	FUEL DELIVERY CHA	ARACTERISTICS
Rated speed rpm	: 200	1	Aneroid pressure	: 900
CRT mm min.	: > 7.50	<del>-</del>	Rated speed rpm Del. quantity	: 800
Rated speed rpm	: 415	Ţ	cm3/1000 strokes Tolerance	
TORGUE CONTROL		<del></del>	cm3/1000 strokes Check tolerance	
Rated speed rpm rack travel mm	: 12.95	† †	cm3/1000s. Spreed Tolerance	
Tolerance mm	: + 0.05	+	cm3/1000 strokes Check tolerance	
Rated speed rpm rack travel mm Tolerance mm	: 800 : 12.50	†	cm3/1000s.	
		+	Aneroid pressure hPa	: 900
Rated speed rpm rack travel mm	: 11.30	+	Rated speed rpm Del. quantity	
Tolerance mm	: + 0.10	‡	cm3/1000 strokes Tolerance	
ANEROID/ALTITUDE		+	cm3/1000 strokes Check tolerance	
COMPENSATOR TEST		‡	cm3/1000s.	: +- 4.0
SETTING		+	Aneroid pressure	: -
Rated speed rpm	: 1100	+ +	Rated speed rpm Del. quantity	
Pressure hPa rack travel mm Tolerance mm	: 900 : 12.95	†	cm3/1000 strokes Tolerance	
Tolerance mm	: <b>-</b> 0.10	† †	cm3/1000 strokes Check tolerance	
MEASUREMENT		†	cm3/1000s.	: ÷- 3.0
Pressure hPa Rated speed rpm rack travel mm	: 9.30	† + +	BREAKAWAY	
Tolerance mm	: +- 0.10	‡	Rack travel in mm	: 11.90
Rated speed rpm	: 1100	‡	Rated speed rpm Tolerance 1/min	
Pressure hPa rack travel mm Tolerance mm	: 225 : 11.15 : + 0.15	‡		
Pressure hPa	: 150	$\frac{1}{4}$	STARTING FUEL DEL	IVERY
rack travel mm Tolerance mm	9.75 + 0.05	+	Rated speed rpm rack travel mm	: 100 : 20.00
START CUT-OUT		<del></del> ‡	Tolerance mm Del. quantity cm3/1000 strokes	: +- 1.00 : 85.0
Rated speed rpm	: < 230	‡	Tolerance cm3/1000 strokes	: +- 7.0
Check speed 1/min	: < 250	++	Check tolerance cm3/1000s.	: + 10.0

# LOW IDLE

Del. quantity
cm3/1000 strokes : 18.0
Tolerance
cm3/1000 strokes : +- 2.0
Check tolerance
cm3/1000s. : +- 4.5
Spreed
Tolerance
cm3/1000 strokes : 3.5
Check tolerance
cm3/1000s. : 5.5

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 22.08.95 Edition : ISO 4113 Test oil

Combination No. : 0 403 474 008H

Injection pump

Pump designation : PES4MW100/720RS1181

EP type number : 0 413 404 107

Governor

Governer design. : RSV400...1000MW1A333

Governer no. : 0 420 085 118

Cust. part No. :

Customer-spec. information Customer : LIEBHERR

: D 914 T Motor Power KW : 106.0

### TEST BENCH REQUIREMENTS

Test oil inlet

temp. \*C Tolerance °C : +- 2.0

Overflow valve : 1 417 413 049

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

: 173.5 Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant. per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : +- 1.0

Prestroke mm : 3.05 Tolerance mm : + 0.05

test only : +- 0.10

Rack travel in mm: 10.50 Tolerance mm : +- 1.50

Firing order : 1-3-4-2

Phasing : 0-90-180-270

Tolerance : +- 0.50

Check

tolerance "NW : + 0.75

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm: 10.65 Tolerance mm :  $\leftarrow$  0.05

Del. quantity

cm3/1000 strokes : 137.5

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 4.0

Spreed

Tolerance

cm3/1000 strokes : 4.0

Check tolerance

: 7.5 cm3/1000s.

Rated speed rpm : 400

4	Tolerance 1/min : +- 5
Rack travel in mm: 6.25	
Tolerance mm : + 0.10 + Del. quantity	rack travel mm : 4.00 Rated speed rpm : 1065
cm3/1000 strokes : 22.0	Tolerance 1/min : + 10
Tolerance	4.
cm3/1000 strokes : + 2.0 + Check tolerance +	rack travel mm : 1.00 Tolerance mm : +- 0.70
cm3/1000s. : +- 4.5	Rated speed rpm : 1175
Spreed	
Tolerance + cm3/1000 strokes : 3.5 +	rack travel mm : 4.00 Rated speed rpm : 1065
Check tolerance	Rated speed ipili . 1005
cm3/1000s. : 5.5	
1	LOW IDLE
(B) SETTING OF INJECTION PUMP	
WITH GOVERNOR	control lever
İ	position degree : 76.0 tolerance degree : + 4.0
	toter antic degree 4.0
GUIDE SLEEVE POSITION	Setting point w/out bumper spring
Rated speed rpm : 800	Rated speed rpm : 400
Book top of its and a Coff	rack travel mm : 5.25
Rack travel in mm: 0.65 + Tolerance mm : + 0.35 +	Testing:
	-
governor spring	Rated speed rpm : 400
pre-tension + click setting x : 4.00 +	rack travel mm : 6.25 Tolerance mm : + 0.10
+	
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 100
+	CRT mm min. : > 19.00
Rated speed rpm : 1000 +	
hPa : -	TORQUE CONTROL
Del. quantity	2000
cm3/1000 strokes : 137.5	Rated speed rpm : 1000 rack travel mm : 10.65
cm3/1000 strokes : + 1.0 +	Tolerance mm : + 0.05
Check tolerance	Dated was ad way
cm3/1000s. : + 4.0 +	Rated speed rpm : 500 rack travel mm : 10.65
Tolerance	Tolerance mm : + 0.05
cm3/1000 strokes : 4.0	700
Check tolerance + cm3/1000s. : 7.5	Rated speed rpm : 700 rack travel mm : 10.65
t 1.5	Tolerance mm : + 0.05
RATED SPEED	
+	
control lever	FUEL DELIVERY CHARACTERISTICS
position degree : 103.0 + tolerance degree : + 4.0 +	Aneroid pressure
+	hPa : -
rack travel mm : 9.65	Rated speed rpm : 500
Rated speed rpm : 1025 +	

Del. quantity	
cm3/1000 strokes	: 130.0
Tolerance	
cm3/1000 strokes	: +- 2.0
Check tolerance	
cm3/1000s. Spreed	: +- 5.0
Tolerance	
cm3/1000 strokes	: 6.0
Check tolerance	
cm3/1000s.	: 9.0
• • • • •	
Aneroid pressure	•
hPa Rated speed rpm	700
Del. quantity	. 755
cm3/1000 strokes	: 141.5
Tolerance	
cm3/1000 strokes	: +- 2.0
Check tolerance	
cm3/1000s.	: <del> 5.0</del>
BREAKAWAY	
	0.75
Rack travel in ma	1: 9.65 : 1025
Rated speed rpm Tolerance 1/min	: +- 5
TOTEL GILLE TAIRLE	• •
STARTING FUEL DEL	.IVERY
Dated aread rem	: 100
Rated speed rpm rack travel mm	: 100 : 20.00
Tolerance mm	: +- 1.00
Del. quantity	
cm3/1000 strokes	: 135.0
Tolerance	
cm3/1000 strokes	: ← 5.0
Check tolerance cm3/1000s.	: +- 8.0
CIRD/ TOODS.	0.0
LOW IDLE	
Rated speed rpm	: 400
rack travel mm	: 400 : 6.25
Tolerance mm	: + 0.10
Del. quantity	
cm3/1000 strokes	: 22.0
Tolerance	
cm3/1000 strokes	: +- 2.0
Check tolerance cm3/1000s.	
a (42 1/ 1 1 11 11 12 12) .	• +- 45
Spreed	: +- 4.5

Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 5.5

### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : ISO 4113

: 22.08.95

Combination No. : 0 403 474 0210

Injection pump

Pump designation : PES4MW100/720RS1181

EP type number : 0 413 404 107

Governor

Governer design. : RSV400...1000MW1A348

Governer no. : 0 420 085 183

Cust. part No. :

Customer-spec. information

Customer : LIEBHERR : D914T Motor

Power KW

: 106.0

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### TEST BENCH REQUIREMENTS

Test oil inlet

temp. °C Tolerance °C

Overflow valve : 1 417 413 049

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

bar Tolerance bar : + 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0

x length mm : 600

# REMARKS

Check electrically unlatched starting fuel delivery (EES) with 24 volt.

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

# BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : +- 1.0

Prestroke mm : 3.05 Tolerance mm : + 0.05

test only : +- 0.10

Rach travel in mm : 10.50 Tolerance mm: +- 1.50

Firing order : 1-3-4-2

: 0-90-180-270 Phasing Phasing Tolerance : +- 0.50

Check

tolerance °NW : ← 0.75

### BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm: 10.65 Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes : 137.5

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s. : **←** 4.0

Spreed

Tolerance

cm3/1000 strokes : 4.0

Check tolerance +	tolerance degree : +- 4.0
cm3/1000s. : 7.5	~
Rated speed rpm : 400	rack travel mm : 9.65 Rated speed rpm : 3025
kated speed rpm : 400	Rated speed rpm : 3025 Tolerance 1/min : +- 5
Rack travel in mm: 6.25	
Tolerance mm : + 0.10	rack travel mm : 4.00
Del. quantity + cm3/1000 strokes : 22.0 +	Rated speed rpm : 1065 Tolerance 1/min : +- 10
Tolerance	Total ance Thirm: 3- To
cm3/1000 strokes : +- 2.0	rack travel mm : 1.00 Tolerance mm : + 0.70
Check tolerance +	Tolerance mm : $\leftarrow$ 0.70
cm3/1000s. : +- 4.5	Rated speed rpm : 1175
Tolerance	rack travel mm : 4.00
cm3/1000 strokes : 3.5	Rated speed rpm : 1065
Check tolerance	
cm3/1000s. : 5.0	LOW IDLE
1	20H 102/2
(B) SETTING OF INJECTION PUMP	
WITH GOVERNOR	control lever position degree : 76.0
I	tolerance degree : +- 4.0
GUIDE SLEEVE POSITION	Setting point w/out bumper spring
Rated speed rpm : 800	Rated speed rpm : 400
+	rack travel mm : 6.25
Rack travel in mm: 0.65	Toching
Tolerance mm : +- 0.35 +	Testing:
governor spring	Rated speed rpm : 400
pre-tension +	rack travel mm : 5.25 Tolerance mm : + 0.10
click setting $x$ : 4.00	Tolerance mm : + 0.10
,	Rated speed rpm : 100
FULL LOAD DELIVERY AT FULL LOAD STOP	
Rated annual rays a 1000	CRT man anin. :> 19.00
Rated speed rpm : 1000 +	***************************************
hPa : 1250	TORQUE CONTROL
Del. quantity	2000
cm3/1000 strokes : 137.5	Rated speed rpm : 1000 rack travel mm : 10.65
cm3/1000 strokes : +- 1.0 +	Tolerance mm : +- 0.05
Check tolerance	
cm3/1000s. : + 4.0	Rated speed rpm : 500
Spreed + Tolerance +	rack travel mm : 10.65 Tolerance mm : +- 0.05
cm3/1000 strokes : 4.0	TOTAL INTERPRETATION
Check tolerance	Rated speed rpm : 700
cm3/1000s. : 7.5	rack travel mm : 10.65
+	Tolerance mm : +- 0.05
RATED SPEED	
+	ANEROID/ALTITUDE
control lever	COMPENSATOR TEST
position degree : 103.0	
The second secon	

# SETTING

Rated speed rpm	:	500
Pressure hPa	:	_
rack travel mm	:	10.20
Tolerance mm	: +	- 0.05

# **MEASUREMENT**

Pressure hPa	:	1	250
Rated speed rpm	;		500
rack travel mm	:		10.65
Tolerance mm	:	+-	0.05

Rated speed rpm : 50	Rated	speed	rom	:	500
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Pressure hPa	:		420
rack travel mm	:		10.30
Tolerance mm	:	<del>!</del>	0.05

Pressure hPa	*	460
rack travel mm	:	10.55
Tolerance mm	: +	- 0.10

# FUEL DELIVERY CHARACTERISTICS

Aneroid pressure	•	1250
Rated speed rpm	•	500
Del. quantity	•	200
cm3/1000 strokes	•	130.0
Tolerance	•	150.0
cm3/1000 strokes	:	2.0
Check tolerance	•	
cm3/1000s.	: .	<b></b> 5.0
Spreed		
Tolerance		
cm3/1000 strokes	:	6.0
Check tolerance		
cm3/1000s.	:	9.0

Anonoid	-

Aneroid pressure		
hPa	:	1250
Rated speed rpm	:	700
Del. quantity		
cm3/1000 strokes	:	141.5
Tolerance		
cm3/1000 strokes	: 4	<b></b> 2.0

# Aneroid pressure

Check tolerance

cm3/1000s.

Allei Old pressure		
hPa	:	_
Rated speed rpm	:	500
Del. quantity		
cm3/1000 strokes	:	127.5
Talamenea		

Tolerance cm3/1000 strokes : + 1.0

5.0

Check tolerance		
cm3/1000s.	: +-	4.0

# BREAKAWAY

Rack travel in mm	:	9.65
Rated speed rpm	:	1025
Tolerance 1/min	:	<del>+</del> 5

# STARTING FUEL DELIVERY

rack travel mm	: 100 : 20.00 : + 1.00
Tolerance mm Del. quantity	: +- 1.00
cm3/1000 strokes	: 135.0
Tolerance cm3/1000 strokes	: +- 5.0
Check tolerance cm3/1000s.	: +- 8.0

# LOW IDLE

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 04.09.95

Test oil

: ISO 4113

Combination No. : 0 403 476 096

Injection pump

Pump designation : PES6MW100/320RS1132

EP type number : 0 413 406 124

Governor

Governer design. : RSV650...750MW4A311

: -4

Governer no.

: 0 420 085 161

Cust. part No. :

Customer-spec. information

Customer

: PENTA

Motor

: TD 61 AG

Power KW

: 93.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

40

Tolerance °C

: + 2.0

Overflow valve : 1 457 413 010

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 0 681 343 009

Opening pressure

bar

173.5

Tolerance bar

: +- 1.5

Test lines

: 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0 600 x Length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0

Tolerance bar : +- 1.0

Prestroke mm

2.95

Tolerance mm

: +- 0.05

test only

: + 0.10

Rack travel in mm: 10.50

Tolerance mm

: +- 1.50

Firing order

: 1-5- 3- 6- 2-

Phasing

: 0-60-120-180-240

: ~300

Tolerance

: + 0.50

Check

tolerance "NW

: + 0.75

1

Start of delivery mark

Barrel no.

BASIC SETTING

Rated speed rpm :

700

10.85

Rack travel in mm : Tolerance mm

: +- 0.05

Del. quantity

cm3/1000 strokes : 100.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s.

: ÷- 3.0

A15

Spreed	
Tolerance	RATED SPEED
cm3/1000 strokes : 3.5	
Charl to large	antal lava
Check tolerance	control lever
cm3/1000s. : 6.0	position degree : 87.0
7.50	tolerance degree : +- 4.0
Rated speed rpm : 650	
1 20	rack travel mm : 10.80
Rack travel in mm: 6.20	Rated speed rpm : 751
Tolerance mm : + 0.30	Tolerance 1/min : +- 3
Del. quantity + cm3/1000 strokes : 19.0 +	analy through the second of th
	rack travel mm : 4.00
Tolerance + 2.0 +	Rated speed rpm : 781 Tolerance 1/min : + 8
	Tolerance 1/min : + 8
Check tolerance + 4.5	rack travel mm : 1.00
	Tolerance mm : +- 0.70
Spreed +	
cm3/1000 strokes : 3.5	Rated speed rpm : 950
Check tolerance	rack travel mm : 4.00
cm3/1000s. : 5.5	Rated speed rpm : 813
1	Nacea Speed I più : 015
1	
(B) SETTING OF INJECTION PUMP	LOW IDLE
WITH GOVERNOR	
1	
1	control lever
	position degree : 82.0
GUIDE SLEEVE POSITION	tolerance degree : +- 4.0
<u></u>	-
Rated speed rpm : 800 +	Setting point w/out bumper spring
+	
Rack travel in mm: 0.65	Rated speed rpm : 650_
Tolerance mm : +- 0.35	rack travel mm : 5.70
Ţ.	
governor spring +	Testing:
pre-tension +	m
click setting $x$ : 4.00	Rated speed rpm : 650
†	rack travel mm : 6.20
BULL 1.444 PELTUENU AT PULL 1.645 ATCS	Tolerance mm : +- 0.20
FULL LOAD DELIVERY AT FULL LOAD STOP	
<del>†</del>	Cottod canada man . 188
Data danced man a 700	Rated speed rpm : 100
Rated speed rpm : 700	, ,
Aneroid pressure	Rated speed rpm : 100  CRT mm min. : > 19.00
Aneroid pressure hPa : -	, ,
Aneroid pressure hPa : - Del. quantity	CRT mm min. :> 19.00
Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 100.0	, ,
Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 100.0 Tolerance	CRT mm min. : > 19.00  TORQUE CONTROL
Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 100.0 Tolerance cm3/1000 strokes : + 1.0	CRT mm min. : > 19.00  TORQUE CONTROL  Rated speed rpm : 700
Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 100.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance	CRT mm min. : > 19.00  TORQUE CONTROL  Rated speed rpm : 700 rack travel mm : 10.85
Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 100.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0	CRT mm min. : > 19.00  TORQUE CONTROL  Rated speed rpm : 700
Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 100.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed	CRT mm min. : > 19.00  TORQUE CONTROL  Rated speed rpm : 700 rack travel mm : 10.85
Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 100.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance	CRT mm min. : > 19.00  TORQUE CONTROL  Rated speed rpm : 700 rack travel mm : 10.85
Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 100.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance cm3/1000 strokes : 3.5	CRT mm min. : > 19.00  TORQUE CONTROL  Rated speed rpm : 700 rack travel mm : 10.85
Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 100.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance	CRT mm min. : > 19.00  TORQUE CONTROL  Rated speed rpm : 700 rack travel mm : 10.85
Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 100.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance cm3/1000 strokes : 3.5	CRT mm min. : > 19.00  TORQUE CONTROL  Rated speed rpm : 700 rack travel mm : 10.85 Tolerance mm : + 0.05
Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 100.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance	CRT mm min. : > 19.00  TORQUE CONTROL  Rated speed rpm : 700 rack travel mm : 10.85

Rack travel in mm: 10.80
Rated speed rpm: 751
Tolerance 1/min: + 3

### STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity

cm3/1000 strokes : 140.0

Tolerance

cm3/1000 strokes : +- 10.0

Check tolerance

cm3/1000s. : +- 13.0

### LOW IDLE

Rated speed rpm : 650 rack travel mm : 6.20
Tolerance mm : + 0.30 Del. quantity cm3/1000 strokes : 19.0 Tolerance cm3/1000 strokes :  $\leftarrow$  2.0 Check tolerance cm3/1000s. : +- 4.5 Spreed Tolerance 3.5 cm3/1000 strokes : Check tolerance cm3/1000s. 5.5

# BOSCH INJ. PUMP TEST SPECIFICATIONS Note remarks Refer to Service Info for test and adjustment instructions. See microcard(s) W400/... Edition : 05.09.95 Test oil : ISO 4113 Combination No. : 0 403 476 102 Injection pump Pump designation : PES6MW100/320RS1211 EP type number : 0 413 406 202 Governor Governer design. : RSV650...750MW4A311 : ~5 : 0 420 085 166 Governer no. Cust. part No. Customer-spec. information Customer : PENTA Motor : TID 61 AG : 115.0 Power KW TEST BENCH REQUIREMENTS Inlet line : 3.1 Test oil inlet temp. °C Tolerance °C : 1 457 413 010 Overflow valve Inlet press. bar : 1.5 Test nozzle holde : 0 681 343 009 assembly Opening pressure 173.5 Tolerance bar : +- 1.5

: 1 680 750 014

x length mm	: 600
REMARKS	
(A) INJECTION PUMP Set equal delivery per values	quant.
BEGINNING OF DELIV	ERY
Test pressure bar Tolerance bar	: 31.0 : + 1.0
Prestroke mm Tolerance mm	: 2.95 : +- 0.05
test only	: +- 0.10
Rack travel in mm Tolerance mm	: 10.50 : + 1.50
	: 1-5-3-6-2-
	: 0-60-120-180-240 : -300
Tolerance Check	+- 0.50
	: + 0.75
Start of delivery n	mark
Barrel no.	: 1
BASIC SETTING	
Rated speed rpm :	700
Rack travel in mm : Tolerance mm :	: 11.25 : ← 0.05
Del. quantity cm3/1000 strokes :	: 125.0
Tolerance cm3/1000 strokes :	: +- 1.0
Check tolerance cm3/1000s. :	+- 3.0

x inside diameter: 2.0

Test lines

Outside diameter : 6.0

	+
Spreed Tolerance	RATED SPEED
cm3/1000 strokes : 3.5	†
Check tolerance	control lever
cm3/1000s. : 6.0	<pre>position degree : 88.0 tolerance degree : + 4.0</pre>
Rated speed rpm : 650	rack travel mm : 10.20
Rack travel in mm: 5.25	+ Rated speed rpm : 751
Tolerance mm : \( \operatorname{0.40}\) Del. quantity	Tolerance 1/min : +- 3
cm3/1000 strokes : 19.0 Tolerance	rack travel mm : 4.00
cm3/1000 strokes : +- 2.0	+ Rated speed rpm : 781 + Tolerance 1/min : +- 8
Check tolerance cm3/1000s. : ← 4.5	† + rack travel mm : 1.00
Spreed	+ Tolerance mm : + 0.70
Tolerance cm3/1000 strokes : 3.5	+ Rated speed rpm : 1000 +
Check tolerance cm3/1000s. : 5.5	+ rack travel mm : 4.00 + Rated speed rpm : 803
(B) SETTING OF INJECTION PUMP	LOW IDLE
	-
	control lever position degree : 82.0
GUIDE SLEEVE POSITION	tolerance degree : +- 4.0
Rated speed rpm : 800	Setting point w/out bumper spring
Rack travel in mm : 0.65 Tolerance mm : + 0.35	Rated speed rpm : 650 rack travel mm : 4.25
	rack travel mm : 4.25
governor spring pre-tension	Testing:
click setting x : 6.00	Rated speed rpm : 650 rack travel mm : 5.25
	Tolerance mm : + 0.25
FULL LOAD DELIVERY AT FULL LOAD STOP	+ Rated speed rpm : 100
Rated speed rpm : 700 - Aneroid pressure	CRT mm min. : > 19.00
hPa : -	17.00
Del. quantity - cm3/1000 strokes : 125.0 -	TORQUE CONTROL
Tolerance cm3/1000 strokes : +- 1.0	Rated speed rpm : 700
Check tolerance -	rack travel mm : 11.25
cm3/1000s. : +- 3.0 Spreed	Tolerance mm : + 0.05
Tolerance - cm3/1000 strokes : 3.5	<u> </u>
Check tolerance	
cm3/1000s. : 6.0	BREAKAWAY
•	}

Rack travel in mm	:	10.20
Rated speed rpm	•	751
Tolerance 1/min	:	÷- 3

# STARTING FUEL DELIVERY

Rated speed rpm :	100
Del. quantity	405
	405

cm3/1000 strokes : 185.0

Tolerance cm3/1000 strokes : +- 10.0

Check tolerance cm3/1000s. : +- 13.0

# LOW IDLE

Rated speed rpm rack travel mm Tolerance mm Del. quantity	:	650 5.25 0.40	
cm3/1000 strokes	:	19.0	
Tolerance	•	,,,,,	
cm3/1000 strokes	: +-	2.0	
Check tolerance			
cn3/1000S.	: +-	4.5	
Spreed			
Tolerance	_	7 6	
cm3/1000 strokes	;	3.5	
Check tolerance cm3/1000s.	:	5.5	

### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 06.09.95 Test oil : ISO 4113

Combination No. : 0 403 476 108

Injection pump

Pump designation : PES6MW100/320RS1132

EP type number : 0 413 406 124

Governor

Governer design. : RSV325...1400MW2A314

: -3

Governer no. : 0 420 085 173

Cust. part No.

Customer—spec. information Customer : PENTA Motor : TD 610M Power KW : 147.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 457 413 010

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : + 1.0

Prestroke mm : 2.95 Tolerance mm : + 0.05

test only :  $\leftarrow$  0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.50

Check

tolerance °NW : +- 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 11.35

Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 97.0

Tolerance

cm3/1000 strokes :  $\leftarrow$  1.0

Check tolerance

cm3/1000s. : + 3.0

Spreed	†	DATES STORES
Tolerance	. 7.5	RATED SPEED
cm3/1000 strokes	: 3.5	
Check tolerance		control lever
cm3/1000s.	: 6.0	position degree : 108.0
CH37 10003.	· 5.5	tolerance degree : +- 4.0
Rated speed rpm	· 325	coterance degree . T- 4.0
nacea speed rail	. 363	rack travel mm : 10.30
Rack travel in mm	• 6.10	Rated speed rpm : 1280
	: + 0.20	Tolerance 1/min : +- 5
Del. quantity	1	
cm3/1000 strokes	: 14.0	rack travel mm : 4.00
Tolerance	+	Rated speed rpm : 1385
cm3/1000 strokes	: +- 2.0	Tolerance 1/min : +- 10
Check tolerance	+	
cm3/1000s.	: +- 4.5	rack travel mm : 1.00
Spreed	+	Tolerance mm : + 0.70
Tolerance	+	Rated speed rpm : 1575
cm3/1000 strokes	: 3.5	
Check tolerance	+	rack travel mm : 4.00
cm3/1000s.	: 5.5	Rated speed rpm : 1420
	†	
(5) 0557710 05 7111	TOTTON 1 1010	tout your
(B) SETTING OF INJ	EUTION PUMP	LOW IDLE
WITH GOVERNOR	Ť	
	I	control lever
	I	position degree : 80.0
GUIDE SLEEVE POSIT	TON I	tolerance degree : +- 4.0
00100 002010 10011.	1	over alloc acgree . 4.0
Rated speed rpm	: 800	Setting point w/out bumper spring
	1	
Rack travel in mm	: 0.65	Rated speed rpm : 325
Tolerance mm	: +- 0.35 +	rack travel mm : 5.60
	+	
governor spring	+	Testing:
pre-tension	+	
click setting x	: 6.25	Rated speed rpm : 325
	+	rack travel mm : 6.10
		Tolerance mm : +- 0.10
FULL LOAD DELIVERY	AT FULL LOAD STOP	2.00
Dodgad amand	. 1000	rack travel mm : 2.00
	: 1000 +	Rated speed rpm : 620 Tolerance 1/min : +- 30
Aneroid pressure hPa :	: 800	roterance min : + 30
Del. quantity		Rated speed rpm : 100
	97.0	ndeed speed thin . 100
Tolerance	· //.5	CRT man min. : > 19.00
	: + 1.0 I	OTT THE THEFT
Check tolerance	1	
	: + 3.0	TORQUE CONTROL
Spreed	1	
Tolerance	1	Rated speed rpm : 1000
cm3/1000 strokes :	: 3.5	rack travel mm : 11.35
Check tolerance	+	Tolerance $mm$ : $\leftarrow$ 0.05
cm3/1000s. :	: 6.0	
	+	
	+	

# ANEROID/ALTITUDE COMPENSATOR TEST

### SETTING

Rated speed rpm : 1000
Pressure hPa : 800
rack travel mm : 11.35
Tolerance mm : +- 0.05

### MEASUREMENT

Pressure hPa : Rated speed rpm : 1000
rack travel mm : 10.15
Tolerance mm : +- 0.05

Rated speed rpm : 1000

Pressure hPa : 420 rack travel mm : 11.15 Tolerance mm : + 0.15

Pressure hPa : 130
rack travel mm : 10.25
Tolerance mm : + 0.05

### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : -Rated speed rpm : 1000

Del. quantity

cm3/1000 strokes : 79.8

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. :  $\leftarrow$  3.0

### BREAKAWAY

Rack travel in mm : 10.30
Rated speed rpm : 1280
Tolerance 1/min : + 5

### STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.00 Tolerance mm : + 1.00

Del. quantity

cm3/1000 strokes : 135.0

Tolerance

cm3/1000 strokes : +- 10.0

Check tolerance

cm3/1000s. : +- 13.0

# LOW IDLE

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 06.09.95 : ISO 4113

Combination No. : 0 403 476 130

Injection pump

Pump designation : PES6MW100/320RS1211

EP type number : 0 413 406 202

Governor

Governer design. : RSV300...900MW1A311

: -6

Governer no.

: 0 420 085 224

Cust. part No. :

Customer-spec. information

Customer : PENTA

Motor

: TWD 610 P

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

40

Tolerance °C

Overflow valve : 1 457 413 010

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 0 681 343 009

Opening pressure

bar

: 173.5

Tolerance bar :  $\leftarrow$  1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter :

x length mm :

2.0 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values

BEGINNING OF DELIVERY

Test pressure bar: 31.0 Tolerance bar : + 1.0

Prestroke mm : 2.95 Tolerance mm : +- 0.05

test only

: +- 0.10

Rack travel in mm : 10.50

Tolerance mm : + 1.50

Firing order

: 1-5- 3- 6- 2-

: 4

Phasing

: 0-60-120-180-240

Tolerance

: -300 : + 0.50

Check

tolerance \*NW : +- 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 900

Rack travel in mm : 9.70

Tolerance mm :  $\leftarrow$  0.05

Del. quantity

cm3/1000 strokes : 98.0

Tolerance

cm3/1000 strokes :  $\leftarrow$  1.0

Check tolerance

cm3/1000s.

: +- 3.0

A24

4	
Spreed	
Tolerance + 3.5	RATED SPEED
Clib/1000 Strokes : 3.3	
Check tolerance	control lever
cm3/1000s. : 6.0	position degree : 106.0
Rated speed rpm : 300	tolerance degree : +- 4.0
hated speed ipin . Soo	rack travel mm : 8.70
Rack travel in mm: 6.00	Rated speed rpm : 920
Tolerance mm : +- 0.40 +- Del. quantity +-	Tolerance 1/min : + 3
cm3/1000 strokes : 19.0	rack travel mm : 4.00
Tolerance	Rated speed rpm : 975
cm3/1000 strokes : + 2.0	Tolerance 1/min : +- 8
Check tolerance cm3/1000s. : +- 4.5	rack travel mm : 1.00
Spreed	Tolerance mm : +- 0.70
Tolerance	Rated speed rpm : 1050
cm3/1000 strokes : 3.5 Check tolerance	rack travel mm : 4.00
cm3/1000s. : 5.5	Rated speed rpm : 1005
+	
(B) SETTING OF INJECTION PUMP +	LOW IDLE
WITH GOVERNOR	to VIV do of the to
†	and and the same
	control lever position degree : 82.0
GUIDE SLEEVE POSITION	tolerance degree : +- 4.0
Patrid annual	Catalan unitat u (aut buman au sin
Rated speed rpm : 800	Setting point w/out bumper spring
Rack travel in mm: 0.65	Rated speed rpm : 300
Tolerance $nm$ : $\leftarrow 0.35$	rack travel mm : 5.00
governor spring	Testing:
pre-tension +	•
click setting x : 6.00	Rated speed rpm : 300
	rack travel mm : 6.00 Tolerance mm : +- 0.25
FULL LOAD DELIVERY AT FULL LOAD STOP	roterance man
+	Rated speed rpm : 100
Rated speed rpm : 900 +	CRT mm min. :> 19.00
hPa : -	CR1 1991 1911 1911
Del. quantity	
cm3/1000 strokes : 98.0	TORQUE CONTROL
Tolerance + cm3/1000 strokes : + 1.0	Rated speed rpm : 900
Check tolerance +	rack travel mm : 9.70
cm3/1000s. : + 3.0	Tolerance mm : +- 0.05
Spreed + Tolerance +	
cm3/1000 strokes : 3.5	
Check tolerance	
cm3/1000s. : 6.0	BREAKAWAY
Ţ	UNECKORA:
•	

8.70 Rack travel in mm : Rated speed rpm : 920 Tolerance 1/min : +-3

# STARTING FUEL DELIVERY

Rated speed rpm 100

Del. quantity cm3/1000 strokes : 150.0

Tolerance

cm3/1000 strokes : + 10.0

Check tolerance

cm3/1000S. : +- 13.0

### LOW IDLE

Rated speed rpm 300 6.00 rack travel mm Tolerance mm : ← 0.40 Del. quantity cm3/1000 strokes : 19.0

Tolerance

cm3/1000 strokes :  $\leftarrow$  2.0

Check tolerance

cm3/1000s. 4.5

Spreed Tolerance

cm3/1000 strokes :

Check tolerance

5.5 cm3/1000s.

3.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 06.09.95 Edition Test oil : ISO 4113

Combination No. : 0 403 476 132

Injection pump

Pump designation : PES6MW100/320RS1132

: -1

EP type number : 0 413 406 230

Governor

Governer design. : RSV325...1200MW0A359

: -1

Governer no. : 0 420 085 241

Cust. part No. :

Customer-spec. information

Customer : PENTA : TD 630ME Motor

: 119.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. \*C : 40
Tolerance \*C : + 2.0

Overflow valve : 1 457 413 010

Inlet press. bar : 1.5

Test nozzie holde

: 0 681 343 009 assembly

Opening pressure

: 173.5 bar Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar: 31.0 Tolerance bar : +- 1.0

Prestroke mm : 2.95 Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance "NW : +- 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm: 12.65 Tolerance mm :  $\leftarrow$  0.05

Del. quantity

cm3/1000 strokes : 116.0

Tolerance

cm3/1000 strokes : +- 1.0

Charle had annual	
Check tolerance + 3.0 +	
T = 5.0	RATED SPEED
Spreed	MATER OF CER
Tolerance	
cm3/1000 strokes : 3.5	control lever
+	position degree : 96.0
Check tolerance +	tolerance degree : +- 4.0
cm3/1000s. : 6.0	
	rack travel mm : 11.60
Rated speed rpm : 325	Rated speed rpm : 1225 Tolerance 1/min : +- 5
Rack travel in mm: 6.00	Toterance Timin : 74 3
Tolerance mm : +- 0.20	rack travel mm : 4.00
Del. quantity	Rated speed rpm : 1275
cm3/1000 strokes : 14.0	Tolerance 1/min : +- 10
Tolerance +	
cm3/1000 strokes : +- 2.0 +	rack travel mm : 1.00
Check tolerance +	Tolerance mm : +- 0.70
cm3/1000s. : + 4.5 +	Rated speed rpm : 1350
Spreed	rack travel mm : 4.00
Tolerance + cm3/1000 strokes : 3.5	rack travel mm : 4.00 Rated speed rpm : 1295
Check tolerance	Nated Speed (pill . (2))
cm3/1000s. : 5.5	
	LOW IDLE
+	
(B) SETTING OF INJECTION PUMP	
WITH GOVERNOR +	control lever
<b>†</b>	position degree : 69.0
	tolerance degree : +- 4.0
GUIDE SLEEVE POSITION	Setting point w/out bumper spring
GOIDE BELEVE FOOTFION	occerning points arouse bumper opening
Rated speed rpm : 800	Rated speed rpm : 325
· · · · · · · · · · · · · · · · · · ·	rack travel mm : 5.50
Rack travel in mm: 0.65	
Tolerance mm : +- 0.35	Testing:
†	Dated aread are 225
governor spring	Rated speed rpm : 325 rack travel mm : 6.00
pre-tension + click setting x : 3.20 +	Tolerance mm : + 0.10
CCICK Secting X . S.LO	roce: drice han
	rack travel mm : 2.00
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 490
+	Tolerance 1/min : +- 30
Rated speed rpm : 700	
Aneroid pressure	Rated speed rpm : 100
hPa : 1000	CRT mm min. :> 19.00
Del. quantity + cm3/1000 strokes : 116.0 +	CRI BER BITT. : 7 19.00
Tolerance	
cm3/1000 strokes : + 1.0	TORQUE CONTROL
Check tolerance	
cm3/1000s. : +- 3.0	Rated speed rpm : 700
Spreed	rack travel mm : 12.65
Tolerance	Tolerance mm : + 0.05
cm3/1000 strokes : 3.5	
Check tolerance + cm3/1000s. : 6.0	
cm3/1000s. : 6.0 +	

ANEROID/ALTI	TUDE
COMPENSATOR	TEST

### SETTING

Rated speed rpm : 700
Pressure hPa : 1000
rack travel mm : 12.65
Tolerance mm : + 0.05

### **MEASUREMENT**

Pressure hPa : Rated speed rpm : 700
rack travel mm : 10.55
Tolerance mm : + 0.05

Rated speed rpm : 700

Pressure hPa : 610 rack travel mm : 12.45 Tolerance mm : + 0.15

Pressure hPa : 270
rack travel mm : 10.75
Tolerance mm : +- 0.05

### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : Rated speed rpm : 700
Del. quantity
cm3/1000 strokes : 77.0

Tolerance

cm3/1000 strokes : +- 1.0 Check tolerance

cm3/1000s. : +- 3.0

### BREAKAWAY

Rack travel in mm : 11.60
Rated speed rpm : 1225
Tolerance 1/min : + 5

# STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.00 Tolerance mm : +- 1.00

Del. quantity

cm3/1000 strokes : 135.0

Tolerance

cm3/1000 strokes : + 10.0

Check tolerance

cm3/1000s. : +- 13.0

### LOW IDLE

Rated speed rpm 325 : rack travel mm 6.00 Tolerance mm : +- 0.20 Del. quantity cm3/1000 strokes : 14.0 Tolerance cm3/1000 strokes :  $\leftarrow$  2.0 Check tolerance cm3/1000s. : +- 4.5 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 5.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 11.08.95 : ISO 4113 Test oil

Combination No. : 0 401 430 015

Injection pump

Pump designation : PE12R120/520/6RS1510

EP type number : 0 411 420 002

Governor

Governer design. : RQV300...1150R7K Governer no. : 0 421 415 007

Cust. part No. : 1 227 6584

Customer-spec. information

: MWM Customer Motor : TBD 616

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C 2.0

Overflow valve : 2 417 413 082

Inlet press. bar : 3.0 : + 0.1 Tolerance bar

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 bar Tolerance bar : +- 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0 x length mm 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm 4.95 : +- 0.05 Tolerance mm

: +- 0.10 test only

Rack travel in mm: 21.00 Tolerance mn:  $\leftarrow 0.50$ 

: 1-2-9-10-5-6 Firing order

: - 11- 12- 3- 4 : - 7- 8

: 0-30-60-90-120-150 Phasing

: -180-210-240-270

: -300-330

: + - 0.30Tolerance

Check

tolerance "NW : +- 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm: 14.40 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 387.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance + 4.0 +	
Spreed	FULL LOAD DELIVERY AT FULL LOAD STOP
•	Dottod annoting a 1150
Tolerance	Rated speed rpm : 1150
cm3/1000 strokes : 8.0 +	Aneroid pressure
	hPa : 1500
Check tolerance +	Del. quantity
cm3/1000s. : 12.0 +	cm3/1000 strokes : 387.0
+	Tolerance
Rated speed rpm : 300	$cm3/1000$ strokes : $\leftarrow$ 1.0
<b>†</b>	Check tolerance
Rack travel in mm: 4.80	cm3/1000s. : +- 4.0
Tolerance mm : + 0.20	Spreed
Del. quantity	Tolerance
cm3/1000 strokes : 30.0	cm3/1000 strokes : 8.0
Tolerance +	Check tolerance
cm3/1000 strokes : +- 3.0 +	cm3/1000s. : 12.0
Check tolerance	
$cm3/1000s$ . : $\leftarrow$ 6.0	
Spreed	RATED SPEED
Tolerance	
cm3/1000 strokes : 10.0	
Check tolerance	control lever
cm3/1000s. : 14.0	position degree : 121.0
1	tolerance degree : +- 4.0
1	
(B) SETTING OF INJECTION PUMP	rack travel mm : 13.40
WITH GOVERNOR	Rated speed rpm : 1195
1	Tolerance 1/min : + 5
GUIDE SLEEVE TRAVEL	rack travel mm : 4.00
dozoc otacve minae	Rated speed rpm : 1295
Rated speed rpm : 300	Tolerance 1/min : + 15
guide sleeve	10 cct and 7 min
travel mm : 0.93	rack travel mm : 0.50
Tolerance mm : + 0.20	Tolerance mm : +- 0.50
1000 1219	Rated speed rpm : 1400
Rated speed rpm : 1215	nacca opeca i piir : 1400
guide steeve	
travel mm : 9.95	LOW IDLE
Tolerance mm : + 0.15	CON INCE
Total affice like 1. 0.15	
Rated speed rpm : 790	control lever
guide sleeve	position degree : 71.0
travel mm : 4.81	tolerance degree : + 4.0
Tolerance mm : +- 0.25	toterance degree 4.5
Total differential	Testing:
Rated speed rpm : 1430	resering.
guide sleeve	Rated speed rpm : 300
travel mm : 13.50	rack travel mm : 4.80
Tolerance mm : + 0.50	Tolerance mm : +- 0.10
Total differential and the second of the sec	TOTEL GITTE HATE . TO U. TO
	Rated speed rpm : 200
CHINE SLEEVE POSITION	Rated speed rpm : 200
GUIDE SLEEVE POSITION +	CRT mm min. :> 6.30
Detail amond ann a 1770	UC. 1980 10 (11)
Rated speed rpm : 1330 +	Dottod around nor 270
Dock Annual in an a G GO	Rated speed rpm : 370
Rack travel in mm: 9.00	
Tolerance mm : +- 1.50 +	

Check tolerance cm3/1000s. cm3/			† Tolerance
Rated speed rpm : 1150	TORQUE CONTROL		
rack travel mm : 14,40 Tolerance mm : + 0.05 Rated speed rpm : 750 rack travel mm : 11.60 Tolerance mm : + 0.20 Rated speed rpm : 11.60 Tolerance mm : + 0.20 Rated speed rpm : 400 Rated speed rpm : 400 Rated speed rpm : 10.30 Tolerance mm : + 0.30 Tolerance mm : + 0.30  ANEROID/ALTITUDE COMPENSATOR TEST  SETTING  Rated speed rpm : 1150 Pressure hPa : 1500 rack travel mm : 14,40 Tolerance mm : + 0.05  Rated speed rpm : 1150 Pressure hPa : 1500 rack travel mm : 14,40 Tolerance mm : + 0.05  MEASUREMENT  Pressure hPa : 1500 Tolerance mm : + 0.20  Rated speed rpm : 1150 Pressure hPa : 7,90 Tolerance mm : + 0.20  Rated speed rpm : 1150  Pressure hPa : 900 Tolerance mm : + 0.20  Rated speed rpm : 1150  Pressure hPa : 900 Tolerance mm : + 0.20  Rated speed rpm : 100  Fressure hPa : 900 Tolerance mm : + 0.20  Pressure hPa : 310 Tolerance mm : + 0.20  Rated speed rpm : 300 Tolerance mm : + 0.20  Rated speed rpm : 300 Tolerance mm : + 0.20  Rated speed rpm : 300 Tolerance mm : + 0.20  Rated speed rpm : 300 Tolerance mm : + 0.20  Rated			
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Tolerance cm3/1000 strokes : + 1.0			
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MEASUREMENT   Rack travel in mm : 13.40   Rated speed rpm : 1195   Tolerance 1/min : + 5   Tolerance	rack travel mm	: 14.40	
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Rack travel in mm : 13.40			†
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rack travel mm	TOTEL GITTE THE		Rated speed rpm : 300
Tolerance mm : + 0.20			
Del. quantity   cm3/1000 strokes : 30.0   Tolerance   cm3/1000 strokes : 4.0   Tolerance   cm3/1000 strokes : + 3.0   Check tolerance   cm3/1000s. : + 6.0   Spreed   Tolerance   cm3/1000 strokes : 10.0   Tolerance   cm3/1000 strokes : 10.0   Check tolerance   cm3/1000 strokes : 10.0   Check tolerance   cm3/1000 strokes : 10.0   Check tolerance   cm3/1000s. : 14.0   Check tolerance   cm3/1000s.   Check tol	START CUT-OUT		
Check speed 1/min : < 270			
speed 1/min : < 270		: < 250	
Check tolerance   cm3/1000s. : + 6.0			
FUEL DELIVERY CHARACTERISTICS  Aneroid pressure  hPa : 1500  Rated speed rpm : 750  Del. quantity	speed 1/min	: < 270	
FUEL DELIVERY CHARACTERISTICS  Aneroid pressure  hPa : 1500			
Aneroid pressure + cm3/1000 strokes : 10.0 + Check tolerance Rated speed rpm : 750 + cm3/1000s. : 14.0 + Check tolerance cm3/1000s. : 14.0	FILE DEL TUEDO COS	ADACTEDICTICS	
Aneroid pressure + cm3/1000 strokes : 10.0 hPa : 1500 + Check tolerance Rated speed rpm : 750 + cm3/1000s. : 14.0 bel. quantity	FUEL DELIVERY CHA	ARACTERISTICS	
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Rated speed rpm : 750 + cm3/1000s. : 14.0 Del. quantity +		• 1500	
Del. quantity			
		. ,,,,,	1 17.0
	cm3/1000 strokes	: 317.0	<u> </u>

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 13.09.95 Test oil : ISO 4113

Combination No. : 0 401 846 991

Injection pump

Pump designation : PE6P110A320RS3108-1

EP type number : 0 411 816 757

Governor

Governer design. : RQV250...1100PA920

: -10

Governer no. : 0 421 814 106

Cust. part No. : 425823 PO2 RELEASED

Customer-spec. information

Customer : VOLVO-TRUCK
Motor : THD 102 KB
Power KW : 212.0

### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration damper

(RoBo diaphragm) : 4.2

Test oil inlet

temp. °C : 40Tolerance °C :  $\leftarrow$  2.0

Overflow valve : 2 417 413 046

Inlet press. bar : 1.5
Tolerance bar : +- 0.1

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : + 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.05 Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.30

Check

tolerance  $^{\circ}NW$  :  $\leftarrow$  0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

ack travel in mm : 14.30

Rack travel in mm : 14.30Tolerance mm :  $\leftarrow 0.05$ 

Del. quantity

cm3/1000 strokes : 191.0

		+ guide sleeve
Tolerance		travel mm : 4.67
cm3/1000 strokes	: + 1.0	Tolerance mm : + 0.25
	-	
Check tolerance	The title days the first to have the process that the state of the title by the approximant and	Rated speed rpm : 1370
cm3/1000s.	: +- 3.0	guide sleeve
		travel mm : 11.50
Spreed		Tolerance mm : +- 0.50
Tolerance	_	i occidence man
cm3/1000 strokes	: 4.0	
time rood strokes	. 4.0	GUIDE SLEEVE POSITION
Check tolerance		T GOIDE SEZERE FOSTITON
cm3/1000s.	: 7.5	Rated speed rpm : 1175
tilis/ 10003:		L Raced Speed (pin) . 1119
Del. quantity		Rack travel in mm: 16.50
cm3/1000 strokes	: 32.0	Tolerance mm : + 1.30
Tolerance	. 52.0	toterance min 1.50
cm3/1000 strokes	: +- 2.0	
	. — 2.0	SHILLOAN NELTHERY AT THE LOAN STOR
Check tolerance		FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000S.	: +- 4.5	Potest around are a 700
Spreed		Rated speed rpm : 700
Tolerance	7.0	Aneroid pressure
cm3/1000 strokes	: 3.0	hPa : 1200
Check tolerance	1	Del. quantity
cm3/1000s.	: 6.0	- cm3/1000 strokes : 191.0
	-	Tolerance
		cm3/1000 strokes : +- 1.0
(B) SETTING OF IN	NJECTION PUMP	Check tolerance
WITH GOVERNOR		cm3/1000s. : + 3.0
	+	Spreed
		Tolerance
GUIDE SLEEVE TRAV	/EL -	cm3/1000 strokes : 4.0
		Check tolerance
Rated speed rpm	: 250	- cm3/1000s. : 7.5
guide sleeve	7	
travel mm	: 1.19	
Tolerance mm	: <b></b> 0.25	RATED SPEED
Rated speed rpm	: 1146	
guide sleeve	-4	- control lever
travel mm	: 7.81	- position degree : 63.0
Tolerance mm	: <b>←</b> 0.25	tolerance degree : +- 4.0
Rated speed rpm	: 1081	control lever
guide sleeve	-	position degree : 120.0
travel mm	: 6.83	tolerance degree : + 4.0
Tolerance mm	: <b>←</b> 0.25	
	<del>-  </del>	rack travel mm : 13.30
Rated speed rpm	: 387	- Rated speed rpm : 1135
guide steeve		Tolerance 1/min : + 5
travel mm	: 2.96	
Tolerance mm	: +- 0.25	rack travel mm : 4.00
		- Rated speed rpm : 1240
Rated speed rpm	: 437	- Tolerance 1/min : + 15
guide sleeve		-
travel mm	: 3.71	- rack travel mm : 0.50
Tolerance mm	: +- 0.25	- Tolerance mm : +- 0.50
i complete south telefo	1	- Rated speed rpm : 1350
Rated speed rpm	: 520	
Hara opera jon	1	_
	ŧ	

### LOW IDLE control lever 66.0 position degree tolerance degree : +control lever 11.0 position degree tolerance degree : +-Testing: 250 Rated speed rpm 5.70 rack travel mm : + 0.10Tolerance mm 150 Rated speed rpm CRT mm min. : > 6.70 330 Rated speed rpm TORQUE CONTROL 700 Rated speed rpm 14.30 rack travel mm : +- 0.05 Tolerance mm ANEROID/ALTITUDE COMPENSATOR TEST SETTING 500 Rated speed rpm Pressure hPa 1200 14.30 rack travel mm : **←** 0.05 Tolerance mm **MEASUREMENT** Pressure hPa 500 Rated speed rpm rack travel mm 10.15 Tolerance mm : + 0.15 Rated speed rom 500 Pressure hPa : 980 3.80 rack travel mm : ← 0.15 Tolerance mm

240 0.25

: +- 0.05

Aneroid pressure								
hPa	:			_				
Rated speed rpm	:		70	JU				
Del. quantity cm3/1000 strokes	•		1	13.	0			
Tolerance cm3/1000 strokes		4-		1.	n			
Check tolerance	•	•		• •	0			
cm3/1000s.	:	+-		4.	0			
BREAKAWAY								
Rack travel in mm	:		13	3.3	0			
Rated speed rpm	:		113	35				
Tolerance 1/min	:	+			5			
STARTING FUEL DEL	LVi	ERY			<del></del>	-	***************************************	
Rated speed rpm	:		10	00				
rack travel mm Tolerance mm		<b>+</b>	10	).1 ).1	5			
LOW IDLE								
Del. quantity cm3/1000 strokes			7	2.1	n			
Tolerance	•		-	, c	3			
cm3/1000 strokes	:	+-		2.1	)			
Check tolerance				, ,	_			
cm3/1000s. Spreed	-	7		4.	7			
Tolerance								
*****	:			3.0	כ			
Check tolerance					_			
cm3/1000s.	:			6.1	3			

Pressure hPa

Tolerance mm

rack travel mm

Note remarks

Refer to Service Info for test and adjustment instructions.

See microcard(s) W400/...

Edition : 06.09.95 Test oil : ISO 4113

Combination No. : 0 402 046 789

Injection pump

Pump designation : PES6P120A320RS3139

EP type number : 0 412 026 718

Governor

Governer design. : RQV275...1000PA728

: -3

: 0 421 813 657 Governer no.

Cust. part No. : CCEP 5070 -116

Customer-spec. information

: RVI Customer

: MIDR 062045 H Motor

Power KW : 227.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 Tolerance °C : + 2.0

Overflow valve : 2 417 413 071

Inlet press. bar : 2.5

Test nozzle holde

: 1 688 901 019 assembly

Opening pressure

bar 208.5 Tolerance bar : +- 1.5

: 1 680 750 075 Test lines

Outside diameter : 8.0

x inside diameter: 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : +- 1.0

Prestroke mm 3.55 Tolerance mm : +- 0.05

test only : + 0.10

Rack travel in mm: 10.50 : +- 1.50 Tolerance mm

: 1-5-3-6-2-Firing order

: 4

: 0-60-120-180-240 Phasing

: -300

: +- 0.30 Tolerance

Check

tolerance °NW : +- 0.50

Start of delivery mark

Barrel no.

BASIC SETTING

1000 Rated speed rpm :

Del. quantity

cm3/1000 strokes : 197.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s. : +- 4.0

Spreed

Tolerance

cm3/1000 strokes : 5.0

1	Rated speed rpm : 1195
Check tolerance	Tolerance 1/min : +- 15
cm3/1000s. : 9.0	Toterance Trimin . The 13
T	rack travel mm : -10.65
Del. quantity	Tolerance mm : + 0.50
cm3/1000 strokes : 27.0	Rated speed rpm : 1300
Tolerance	Tuesda opeca i pin
cm3/1000 strokes : + 2.0	
Check tolerance	LOW IDLE
cm3/1000s. : + 5.0	
Spreed	
Tolerance	control lever
cm3/1000 strokes : 8.0	position degree : 67.0
Check tolerance	tolerance degree : +- 4.0
cm3/1000s. : 12.0 +	•
+	Testing:
+	-
(B) SETTING OF INJECTION PUMP +	Rated speed rpm : 275
WITH GOVERNOR +	rack travel mm : -5.30
+	Tolerance man : $\leftarrow$ 0.15
+	
	Rated speed rpm : 200
GUIDE SLEEVE POSITION +	
+	CRT mm max. : < -3.80
Rated speed rpm : 1170 +	
	Rated speed rpm : 370
Rack travel in mm: 16.50	
Tolerance mm : + 1.30 +	TORALIE CANTRAL
†	TORQUE CONTROL
THE LOAD OF THEORY AT THE LOAD STOP	Datad around now a CCO
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 600
Dated speed speed and a 1000	
Rated speed rpm : 1000	ANEDOTA AL TITULE
Aneroid pressure + 1000 +	ANEROID/ALTITUDE COMPENSATOR TEST
hPa : 1000 † Del. quantity +	CONFERNMENT (EST
cm3/1000 strokes : 197.0	
Tolerance	SETTING
cm3/1000 strokes : + 1.0	DE112100
Check tolerance	Rated speed rpm : 500
cm3/1000s. : + 4.0	Pressure hPa : 1000
Spreed	Treboare ma . 1000
Tolerance	MEASUREMENT
cm3/1000 strokes : 5.0	The test of the te
Check tolerance	Pressure hPa : -
cm3/1000s. : 9.0	Rated speed rpm : 500
1	rack travel mm : -2.20
	rack travel mm : -2.20 Tolerance mm : +- 0.20
RATED SPEED +	
+	Rated speed rpm : 500
<u> </u>	
control lever	Pressure hPa : 160
position degree : 119.0	rack travel mm : -1.70 Tolerance mm : + 0.10
tolerance degree : +- 4.0 +	Tolerance mm : + 0.10
+	
rack travel mm : -1.00	Pressure hPa : 280
Rated speed rpm : 1080	rack travel mm : -0.75
Tolerance 1/min : +- 5	Tolerance mm : + 0.05
<u> </u>	
rack travel mm : -7.15	

B10

START CUT-OUT	
Rated speed rpm Check	: < 195
speed 1/min	: < 215
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure	
1Pa Rated speed rpm	: 1000 : 600
Del. quantity	. 550
cm3/1000 strokes	: 197.0
Tolerance cm3/1000 strokes	: <b>←</b> 3.0
heck tolerance	
cm3/1000s.	: +- 6.0
Aneroid pressure	
ıPa .	: -
Rated speed rpm Del. quantity	: 500
m3/1000 strokes	: 104.0
Tolerance	
m3/1000 strokes Theck tolerance	: + 1.0
m3/1000s.	: +- 4.0
BREAKAWAY	
	: -1.00
lack travel in mm lated speed rpm	: 1080
olerance 1/min	: +- 5
TARTING FUEL DELI	IVERY
ated speed rpm	: 100
el. quantity m3/1000 strokes	: 145.0
olerance	. 175.0
m3/1000 strokes	: +- 10.0
heck tolerance m3/1000s.	: +- 14.0
m27 (0503)	
OW IDLE	
el quantity	
m3/1000 strokes	: 27.0
olerance	
OW IDLE el. quantity m3/1000 strokes	: 27.0

Check tolerance cm3/1000s. : +- 5.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0

End of test specification sheet

cm3/1000 strokes :  $\leftarrow$  2.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 11.09.95 Test oil : ISO 4113

Combination No. : 0 402 046 862

Injection pump

Pump designation : PES6P120A320RS3337 EP type number : 0 412 026 770

Governor

Governer design. : RQV300...1250PA1149K

Governer no. : 0 421 815 416

Cust. part No. : CCEP 5141A 66-218

Customer-spec. information

Customer : RVI

Motor : MIDR 06-02-26 V4

Power KW : 133.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp.  $^{\circ}$ C : 4B Tolerance  $^{\circ}$ C : + 2.0

Overflow valve : 2 417 413 084

Inlet press. bar : 2.5

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.10
Tolerance mm : + 0.05

test only :  $\leftarrow$  0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance  $: \leftarrow 0.30$ 

Check

tolerance \*NW : + 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250

Del. quantity

cm3/1000 strokes : 149.0

Tolerance

 $cm3/1000 \text{ strokes} : \leftarrow 1.0$ 

Check tolerance

cm3/1000s. : +- 4.0

Spreed

Tolerance

cm3/1000 strokes : 5.0

	,	
Check tolerance	9.0	Rated speed rpm : 1380
	. 7.0	Rack travel in mm: 10.50
Del. quantity cm3/1000 strokes	: 30.0	Tolerance mm : +- 1.30
Tolerance cm3/1000 strokes	: + 2.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance cm3/1000s.	: ← 5.0	- Rated speed rpm : 1250
Spreed Tolerance		- Aneroid pressure - hPa : 1000
cm3/1000 strokes Check tolerance	: 8.0	Del. quantity cm3/1000 strokes : 149.0
cm3/1000s.	: 12.0	Tolerance cm3/1000 strokes : +- 1.0
(B) SETTING OF IN	HECTZON DUND	Check tolerance : +- 4.0
WITH GOVERNOR	MECITON FORP	- Spreed
		Tolerance cm3/1000 strokes : 5.0
GUIDE SLEEVE TRAV	4	- Check tolerance - cm3/1000s. : 9.0
Rated speed rpm guide sleeve	: 300	
travel mm Tolerance mm	: 1.31 : + 0.20	- RATED SPEED
Rated speed rpm	: 1346	- control lever
guide sleeve		position degree : 297.0
travel mm Tolerance mm	: 10.55 : ← 0.15	tolerance degree : + 4.0
Datad anacd ann	: 905	- rack travel mm : -1.00
Rated speed rpm guide sleeve	: 905 +	- Rated speed rpm : 1330 - Tolerance 1/min : +- 5
travel mm	: 6.54	
Tolerance mm	: ← 0.25	rack travel mm : -7.10 Rated speed rpm : 1410
Rated speed rpm guide sleeve	: 381	Tolerance 1/min : + 15
travel mm	: 2.38	rack travel mm : -10.60
Tolerance mm	: <b>←</b> 0.25	Tolerance mm : + 0.50 Rated speed rpm : 1550
Rated speed rpm guide sleeve	: 431	
travel mm	: 2.98	LOW IDLE
Tolerance mm	: + 0.25	• •
Rated speed rpm guide sleeve	: 530	control lever position degree : 244.0
travel mm	: 3.77	tolerance degree : + 4.0
Tolerance mm	: + 0.25	Testing:
Rated speed rpm guide sleeve	: 1580	Rated speed rpm : 300
travel mm	: 13.50	rack travel mm : -6.30
Tolerance mm	: + 0.50	Tolerance mm : ÷ 0.20
GUIDE SLEEVE POSI	TION I	Rated speed rpm : 200
GOIDE DECEME FOOT	T	

Tolerance : +-CRT mm min. : < -5.20 cm3/1000 strokes Check tolerance 400 cm3/1000s. Rated speed rpm : +-Aneroid pressure TORQUE CONTROL hPa Rated speed rpm 1250 Rated speed rpm Del. quantity cm3/1000 strokes : 850 Rated speed rpm Tolerance : rack travel mm -1.35cm3/1000 strokes : +-Tolerance mm : **←** 0.15 Check tolerance cm3/1000s. : +-350 Rated speed rom -1.80rack travel mm Tolerance mm : +- 0.20 BREAKAWAY ANEROID/ALTITUDE Rack travel in mm : COMPENSATOR TEST Rated speed rom : Tolerance 1/min SETTING STARTING FUEL DELIVERY Rated speed rom 1250 Pressure hPa 1000 Rated speed rpm **MEASUREMENT** Del. quantity cm3/1000 strokes : Pressure hPa Tolerance Rated speed rpm 1250 cm3/1000 strokes : +- 15.0 -2.00Check tolerance rack travel mm cm3/1000s. : **←** 19.0 Tolerance mm : +- 0.20 1250 Rated speed rom Pressure hPa 160 : rack travel mm -1.40LOW IDLE Tolerance mm : + 0.10Del. quantity Pressure hPa 280 cm3/1000 strokes : -0.35rack travel mm Tolerance : ← 0.05 Tolerance mm cm3/1000 strokes : +-Check tolerance cm3/1000s. START CUT-OUT Spreed Tolerance cm3/1000 strokes : Rated speed rpm : < 240 Check Check tolerance speed 1/min cm3/1000s. 260 : < FUEL DELIVERY CHARACTERISTICS Aneroid pressure 1000 hPa End of test specification sheet 850 Rated speed rpm

3.0

6.0

1250

106.0

1.0

4.0

100

108.0

30.0

2.0

5.0

8.0

12.0

**B14** 

Del. quantity

cm3/1000 strokes :

121.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 11.09.95 Test oil : ISO 4113

Combination No. : 0 402 046 872

# Injection pump

Pump designation : PES6P120A320RS3337 EP type number : 0 412 026 770

Governor

Governer design. : RQV300...1250PA1246K

Governer no. : 0 421 815 480

Cust. part No. : CCEP 5155 66-217

Customer-spec. information

Customer : RVI

Motor : MIDR 06-02-26 U4

Power KW : 111.0

# TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp.  $^{\circ}$ C :  $^{\circ}$ C :

Overflow valve : 2 417 413 084

Inlet press. bar : 2.5
Tolerance bar : +- 0.1

Test nozzle holde

assembly : 1 638 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 4.10 Tolerance mm : +- 0.05

test only : +- 0.10

Rack travel in mm : 11.00 Tolerance mm : + 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.30

Check

tolerance °NW : + 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250

Del. quantity

cm3/1000 strokes : 145.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s. : +- 4.0

Spreed

Tolerance

cm3/1000 strokes : 5.0

	•	+
Check tolerance cm3/1000s.	: 9.0	FULL LOAD DELIVERY AT FULL LOAD STOP
(11137 (0000)		TOLE LOND DECIVERY AT LOCK COAD STOR
Rated speed rpm	: 300	Rated speed rpm : 1250
		Aneroid pressure
Rack travel in m		hPa : -
Tolerance mm Del. quantity	: <b>←</b> 0.20	Del. quantity cm3/1000 strokes : 145.0
cm3/1000 strokes	: 29.0	Tolerance
Tolerance	. 27.0	cm3/1000 strokes : +- 1.0
cm3/1000 strokes	: +- 2.0	Check tolerance
Check tolerance	4	cm3/1000s. : +- 4.0
cm3/1000S.	: +- 5.0 -	Spreed
Spreed	+	Tolerance
Tolerance		cm3/1000 strokes : 5.0
cm3/1000 strokes Check tolerance	: 8.0	Check tolerance : 9.0
cm3/1000s.	: 12.0	F (113/1000) 7.0
U1137 1 0000 1		
	4	RATED SPEED
(B) SETTING OF I	NUECTION PUMP	
WITH GOVERNOR	1	
		control lever
GUIDE SLEEVE TRAN	VEI	position degree : 296.0 tolerance degree : + 4.0
GOIDE SEEEAE LIVA	]	L toterance degree . • 4.0
Rated speed rpm	: 300	rack travel mm : -1.00
guide sleeve	4	Rated speed rpm : 1325
travel mm	: 1.31	Tolerance 1/min : +- 5
Tolerance mm	: ← 0.20 +	
<b>8</b>	. 4777	rack travel mm : -6.80
Rated speed rpm	: 1333	Rated speed rpm : 1420 Tolerance 1/min : +- 15
guide sleeve travel mm	: 10.48	Tolerance 1/min : + 15
Tolerance mm	+ 0.15	rack travel mm : -10.30
TOCCI GITOC TANK		Tolerance mm : + 0.50
Rated speed rpm	: 900	Rated speed rpm : 1550
guide sleeve	4	
travel mm	: 6.50	
Tolerance mm	: <b>←</b> 0.25	- LOW IDLE
Ontad maned was	: 530	•
Rated speed rpm guide sleeve	: 530	- control lever
travel mm	: 3.77	position degree : 242.0
Tolerance mm	÷ 0.25	- tolerance degree : +- 4.0
- wer mire within	+	
Rated speed rpm	: 1580	- Testing:
guide sleeve	+	
travel mm	: 13.50	- Rated speed rpm : 300
Tolerance mm	: + 0.50	- rack travel mm : -6.00 - Tolerance mm : +- 0.10
		- Tolerance mm : +- 0.10
GUIDE SLEEVE POSI	TION	- Rated speed rpm : 200
Rated speed rpm	: 1400	- CRT mm min. : < -5.00
Rack travel in mm	. 10.50	Rated speed rpm : 380
Tolerance mm		· Nateu speed foll - Sou
TOTEL GIVE HAIF	I	-
	т	

TORQUE CONTROL	
Rated speed rpm	: 1250
Rated speed rpm	: 750
rack travel mm	: -1.60
Tolerance mm	: <del>+-</del> 0.10
Rated speed rpm	
rack travel mm	: -1.90 : + 0.15
Tolerance mm	: + 0.15
Rated speed rpm	
rack travel mm	: -2.50 : +- 0.20
Tolerance mm	: + 0.20
START CUT-OUT	wax
Rated speed rpm	: < 225
Check	
speed 1/min	: < 245
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa	•
nra Rated speed rpm	: 750
Del. quantity	•
cm3/1000 strokes	: 107.0
Tolerance	
cm3/1000 strokes	: <del>←</del> 3.0
Check tolerance	
cm3/1000S.	: +- 6.0
Aneroid pressure	
hPa Rated speed rpm	: - : 550
Del. quantity	• 550
cm3/1000 strokes	: 94.0
Tolerance	· · · · ·
cm3/1000 strokes	: <del>+</del> 3.0
Check tolerance	
cm3/1000s.	: +- 6.0
BREAKAWAY	
Rack travel in mm	: -1.00
Rated speed rpm	: 1325
Tolerance 1/min	: +- 5
www	- -

Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 112.0 Tolerance cm3/1000 strokes : + 15.0 Check tolerance cm3/1000s. : + 19.0 LOW IDLE 300 Rated speed rpm : 300 rack travel mm : -6.00 Tolerance mm : +- 0.20 Del. quantity cm3/1000 strokes : 29.0 Tolerance cm3/1000 strokes : +- 2.0Check tolerance cm3/1000s. 5.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 07.09.95 Test oil : ISO 4113

Combination No. : 0 402 066 706

Injection pump

Pump designation : PES6P120A120RS3358

EP type number : 0 412 026 784

Governor

Governer design. : RSV475...1250P2A613

: -1

Governer no. : 0 421 833 505

Cust. part No. : 3927357

Customer-spec. information

Customer : CDC

Motor : 68TA-590 ELITE

Power KW : 138.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40 Tolerance °C : +- 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5

Test nozzie holde

assembly : 1 688 901 103

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 2.85
Tolerance mm : +- 0.05

test only : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.30

Check

tolerance "NW : + 0.50

Start of delivery blocking

\*NW after s.o.d. : 6.75 Tolerance : + 0.50

Check

tolerance "NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 10.80

Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 150.0

+	Tolerance
Tolerance	cm3/1000 strokes : 4.0
cm3/1000 strokes : + 1.0	Check tolerance
	cm3/1000s. : 7.5
Check tolerance	
cm3/1000s. : +- 3.0	
1. 5.5	RATED SPEED
Spreed	NATED STEED
Tolerance	
cm3/1000 strokes : 4.0	control lever
tim/10c0 strokes . 4.0	position degree : 110.0
Check tolerance	tolerance degree : +- 4.0
cm3/1000s. : 7.5	coterance degree : +- 4.0
UND/ 10005. : 7.5	rack travel mm : 9.80
Dated aread on 175	
Rated speed rpm : 475	Rated speed rpm : 1295
Double and the same of the sam	Tolerance 1/min : + 5
Rack travel in mm: 5.60	
Tolerance mm : + 0.30	rack travel mm : 4.00
Del. quantity	Rated speed rpm : 1390
cm3/1000 strokes : 21.0	Tolerance 1/min : + 15
Tolerance	
cm3/1000 strokes : + 2.0 +	rack travel mm : 0.85
Check tolerance +	Tolerance mm : + 0.55
cm3/1000s. : +- 4.5	Rated speed rpm : 1500
Spreed	
Tolerance +	
cm3/1000 strokes : 6.0	LOW IDLE
Check tolerance +	
cm3/1000s. : 9.0 +	
+	control lever
+	position degree : 87.0
(B) SETTING OF INJECTION PUMP +	tolerance degree : +- 4.0
WITH GOVERNOR +	
+	Testing:
+	-
	Rated speed rpm : 475
GUIDE SLEEVE POSITION +	rack travel mm : 5.60
+	Tolerance mm : + 0.10
Rated speed rpm : 800	
<u> </u>	rack travel mm : 2.00
Rack travel in mm: 0.50	Rated speed rpm : 570
Tolerance mm : $+$ 0.20	Tolerance 1/min : +- 30
+	
governor spring +	
pre-tension +	TORQUE CONTROL
click setting x : 4.75	
	Rated speed rpm : 1250
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : 10.80 Tolerance mm : +- 0.05
Rated speed rpm : 1250	Rated speed rpm : 750
Aneroid pressure	rack travel mm : 10.80
hPa : 1500 +	Tolerance mm : + 0.10
Del. quantity	TOTAL MENT OF TO
cm3/1000 strokes : 150.0	
Tolerance	ANEROID/ALTITUDE
cm3/1000 strokes : +- 1.0	COMPENSATOR TEST
Check tolerance	CONFERENCE ICOT
cm3/1000s. : +- 3.0	
Spreed +	SETTING
apriedu †	OLITING

Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 1500 : 10.80 : +- 0.05
MEASUREMENT	
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 500 : 8.60 : +- 0.20
Rated speed rpm	: 500
Pressure hPa rack travel mm Tolerance mm	: 900 : 10.20 : +- 0.20
Pressure hPa rack travel mm Tolerance mm	: 600 : 9.15 : ← 0.05
FUEL DELIVERY CHA	ARACTERISTICS
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s.  Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 1500 : 750 : 151.0 : +- 2.0 : +- 4.0 : 8.0 : 12.0
BREAKAWAY	
Rack travel in mm Rated speed rpm Tolerance 1/min	: 1295

# STARTING FUEL DELIVERY

Rated speed rpm rack travel mm	:	100 20.25
Tolerance mm	: +-	0.75
Del. quantity cm3/1000 strokes	:	100.0
Tolerance cm3/1000 strokes	: +-	20.0
Check tolerance cm3/1000s.	: +	25.0

# LOW IDLE

Rated speed rpm rack travel mm Tolerance mm Del. quantity	: +-	475 5.60 0.30
cm3/1000 strokes	:	21.0
Tolerance cm3/1000 strokes	: +	2.0
Check tolerance	• +	4.5
Spreed	•	₹•3
Tolerance cm3/1000 strokes	:	6.0
Check tolerance cm3/1000s.	:	9.0

# BOSCH INJ. PUMP TEST SPECIFICATIONS Note remarks Refer to Service Info for test and

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 21.07.95 Test oil : ISO 4113

Combination No. : 0 402 076 751

Injection pump

Pump designation : PES6P120A720RS3311 EP type number : 0 412 026 760

Governor

Governer design. : RSV400...1050P0A603 Governer no. : 0 421 833 484

Cust. part No. :

Customer-spec. information

Customer : FNH-GEOTECH

Motor : P396 Power KW : 157.0

# TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C : 40Tolerance °C : + 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity

min. L/h : 100 Toterance L/h : + 20.0

Test nozzle holde

assembly : 1 688 901 103

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.60 Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 10.50Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.30

Check

tolerance °NW : +- 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 10.35 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 132.0

Tolerance cm3/1000 strokes : ÷ 1.0	Tolerance cm3/1000 strokes : 5.0 Check tolerance
Check tolerance cm3/1000s. : +- 4.0	cm3/1000s. : 9.0
Spreed Tolerance cm3/1000 strokes : 5.0	RATED SPEED
Check tolerance cm3/1000s. : 9.0	position degree : 101.0 tolerance degree : + 4.0
Rated speed rpm : 400	rack travel mm : 0.85 Tolerance mm : +- 0.55
Rack travel in mm : 5.00 Tolerance mm : +- 0.20	Rated speed rpm : 1320
Del. quantity + cm3/1000 strokes : 18.0 + Tolerance +	rack travel mm : 4.00 Rated speed rpm : 1160
cm3/1000 strokes : + 3.0	LOW IDLE
Spreed	control lever position degree : 79.0
Check tolerance cm3/1000s. : 12.0	position degree : 79.0 tolerance degree : +- 4.0
	Setting point w/out bumper spring
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Rated speed rpm : 400 rack travel mm : 5.00
	Testing:
GUIDE SLEEVE POSITION	Rated speed rpm : 400 rack travel mm : 4.50
Rated speed rpm : 800	Tolerance mm : +- 0.10
Rack travel in mm : 0.50 Tolerance mm : + 0.20	rack travel mm : 2.00 Rated speed rpm : 530 Tolerance 1/min : +- 20
governor spring + + + + + + + + + + + + + + + + + + +	
click setting x : 5.00	TORQUE CONTROL
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 1050 rack travel mm : 10.35 Tolerance mm : +- 0.05
Rated speed rpm : 1050 +	Rated speed rpm : 750
hPa : 1500 † Del. quantity †	rack travel mm : 11.20 Tolerance mm : + 0.10
cm3/1000 strokes : 132.0 + Tolerance +	Rated speed rpm : 910
cm3/1000 strokes : + 1.0	rack travel mm : 11.00 Tolerance mm : +- 0.10
cm3/1000s. : +- 4.0 +-	

# ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rom 500 Pressure hPa 1500 11.20 rack travel mm : +- 0.10 Tolerance mm

## **MEASUREMENT**

Pressure hPa 500 Rated speed rpm rack travel mm 9.00 : +- 0.10 Tolerance mm

Rated speed rpm 500

900 Pressure hPa 10.85 rack travel mm : + - 0.05Tolerance mm

## FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

1500 hPa Rated speed rpm 750 Del. quantity

cm3/1000 strokes :

163.0

Tolerance

cm3/1000 strokes : +-3.0

Check tolerance

cm3/1000s. 6.0

Aneroid pressure

hPa

Rated speed rpm 500

Del. quantity cm3/1000 strokes : 115.0

Tolerance

cm3/1000 strokes : +-1.0

Check tolerance

cm3/1000S. 4.0

# STARTING FUEL DELIVERY

Rated speed rpm 100 20.50 rack travel mm : ← 0.50 Tolerance mm

Del. quantity

cm3/1000 strokes : 190.0 Tolerance

cm3/1000 strokes : + 15.0

Check tolerance

cm3/1000s. : +- 19.0

## LOW IDLE

Rated speed rpm rack travel mm Tolerance mm	: : +-	400 5.00 0.20
Del. quantity cm3/1000 strokes	:	18.0
Tolerance cm3/1000 strokes	: +-	3.0
Check tolerance cm3/1000s.	: +-	6.0
Spreed Tolerance		
cm3/1000 strokes Check tolerance	:	8.0
cm3/1000S.	:	12.0

# Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 13.09.95 Edition Test oil : ISO 4113

Combination No. : 0 402 616 800

Injection pump

Pump designation : PE6P130A700RS7234 EP type number : 0 412 636 819

Governor

Governer design. : Governer no.

Cust. part No. : 865277-P02

Customer-spec. information : PENTA Customer

: TAMD 162 \* Motor

# TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temo. °C Tolerance °C 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 019 assembly

Opening pressure

208.5 bar Tolerance bar : → 1.5

: 1 680 750 075 Test lines

Outside diameter : 8.0

x inside diameter : x length mm

#### REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values \_\_\_\_\_

# BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm 3.65 : +- 0.05 Tolerance mm

test only : + 0.10

Rack travel in mm: 10.50 Tolerance mm : + 1.50

: 1-5-3-6-2-Firing order

Phasing : 0-60-120-180-240

: -300

: + - 0.30Tolerance

Check

tolerance "NW : + 0.75

Start of delivery mark

Barrel no.

# BASIC SETTING

Rated speed rpm 700

Rack travel in mm : 11.15 Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 336.0

Tolerance

cm3/1000 strokes : +-1.5

Check tolerance cm3/1000s. : +-5.0

Spreed Tolerance cm3/1000 strokes	:		6.0		
Check tolerance cm3/1000s.	:		10.0	 	
Rated speed rpm	:		300		
Rack travel in mm Tolerance mm Del. quantity	:	+-	3.85 0.20		
cm3/1000 strokes Tolerance	:		23.0		
cm3/1000 strokes Check tolerance	:	+-	3.0		
cm3/1000S. Spreed	:	+	6.0		
Tolerance cm3/1000 strokes Check tolerance	:		5.0		
cm3/1000s.	:		8.0		

# (B) SETTING OF INJECTION PUMP WITH GOVERNOR

# FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 700
Aneroid pressure	
hPa	:
Del. quantity	
cm3/1000 strokes	: 336.0
Tolerance	
cm3/1000 strokes	: +- 1.5
Check tolerance	
cm3/1000s.	: +- 5.0
Spreed	
Tolerance	
cm3/1000 strokes	: 6.0
Check tolerance	
cm3/1000s.	: 10.0

# TORQUE CONTROL

Rated speed rpm	:	700
rack travel mm	:	11.15
Tolerance mm	: +	- 0.05

LOW IDLE		
Rated speed rpm	:	300
rack travel mm	:	3.85
Tolerance mm Del. quantity	: +	0.20
cm3/1000 strokes Tolerance	:	23.0
cm3/1000 strokes Check tolerance	: +-	3.0
cm3/1000s. Spreed	: +-	6.0
Tolerance cm3/1000 strokes Check tolerance	:	5.0
cm3/1000s.	:	8.0

# BOSCH INJ. PUMP TEST SPECIFICATIONS Note remarks Refer to Service Info for test and adjustment instructions. See microcard(s) W400/... Edition : 18.07.95 Test oil : ISO 4113 Combination No. : 0 402 616 806 Injection pump Pumo designation : PE6P120A300LS7888 EP type number : 0 412 626 947 Governor Governer design. : Governer no. Cust. part No. : 04221425KZ0165-17 Customer-spec. information Customer : KHD : BF6M1015C Motor Power KW : 300.0 TEST BENCH REQUIREMENTS Inlet line : 3.1 Test oil inlet temp. °C 40 Tolerance °C : +- 2.0 Overflow valve : 1 417 413 025 1.5 Inlet press. bar : 0.1 Tolerance bar Test nozzle holde : 1 688 901 105 assembly Opening pressure 208.5 Tolerance bar : +- 1.5

: 1 680 750 075

x inside diameter: 3.0 x length mm : 1000
REMARKS
(A) INJECTION PUMP SETTING VALUES Set equal delivery quant. per values
BEGINNING OF DELIVERY
Test pressure bar : 26.0 Tolerance bar : + 1.0
Prestroke mm : 4.05 Tolerance mm : + 0.05
test only : +- 0.10
Rack travel in mm : 10.50 Tolerance mm : + 0.50
Firing order : 1-6-3-5-2- : 4
Phasing : 0-60-120-180-240
: -300 Tolerance : + 0.30 Check tolerance *NW : + 0.50
Start of delivery mark
Barrel no. : 1
BASIC SETTING
Rated speed rpm : 950
Rack travel in mm: 13.70 Tolerance mm: ÷ 0.05
Del. quantity cm3/1000 strokes : 350.0
Tolerance cm3/1000 strokes : + 1.0
Check tolerance cm3/1000s. : + 4.0

Test Lines

Outside diameter : 8.0

Spreed Tolerance cm3/1000 strokes	: 6.0
Check tolerance cm3/1000s.	: 9.0
Rated speed rpm	: 300
Rack travel in mm Tolerance mm Del. quantity	4.70 : +- 0.20
cm3/1000 strokes Tolerance	: 25.0
cm3/1000 strokes	: +- 3.0
Check tolerance cm3/1000s. Spreed	: +- 6.0
Tolerance cm3/1000 strokes	: 8.0
Check tolerance cm3/1000s.	: 12.0
(B) SETTING OF IN WITH GOVERNOR	JECTION PUMP
WITH GOVERNOR  FULL LOAD DELIVER	Y AT FULL LOAD STOP
FULL LOAD DELIVER Rated speed rpm Aneroid pressure	Y AT FULL LOAD STOP : 950
FULL LOAD DELIVER Rated speed rpm Aneroid pressure hPa Del. quantity	Y AT FULL LOAD STOP : 950 : -
FULL LOAD DELIVER Rated speed rpm Aneroid pressure hPa	Y AT FULL LOAD STOP : 950 : -
FULL LOAD DELIVER Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	Y AT FULL LOAD STOP : 950 : -
FULL LOAD DELIVER Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	Y AT FULL LOAD STOP  : 950  : -  : 350.0
FULL LOAD DELIVER Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance	950 : - : 350.0 : + 1.0 : + 4.0
FULL LOAD DELIVER Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance	950 : - : 350.0 : + 1.0 : + 4.0 : 6.0
FULL LOAD DELIVER Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes	950 : - : 350.0 : + 1.0 : + 4.0
FULL LOAD DELIVER Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance	950 : - : 350.0 : + 1.0 : + 4.0 : 6.0

STARTING FUEL DEL	IVERY
Rated speed rpm rack travel mm Del. quantity	: 100 : 21.00
cm3/1000 strokes	: 200.0
Tolerance cm3/1000 strokes	: +- 20.0
Check tolerance cm3/1000s.	: + 24.0
LOW IDLE	
Rated speed rpm rack travel mm Tolerance mm	: 300 : 4.70 : ← 0.20
Del. quantity cm3/1000 strokes	: 25.0
Tolerance cm3/1000 strokes	: +- 3.0
Check tolerance cm3/1000s. Spreed	: 6.0
Tolerance cm3/1000 strokes	: 8.0
Check tolerance cm3/1000s.	: 12.0

## Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 13.09.95 Test oil : ISO 4113

Combination No. : 0 402 646 610

Injection pump

Pump designation : PE6P130A720RS7273

: -10

EP type number : 0 412 636 828

Governor

Governer design. : RQV250...900P4881-2

Governer no. : 0 421 814 035

Cust. part No. : 865567

: -P04 21.11.94

Customer—spec. information Customer : PENTA

Motor : TAD 1630 P

#### TEST BENCH REQUIREMENTS

Inlet line : 4.2

Vibration

damper

(RoBo diaphragm) : 3.1

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 1 457 413 010

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

# REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

# BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.55 Tolerance mm : +- 0.05

test only :  $\leftarrow$  0.10

Rack travel in mm : 9.30 Tolerance mm : + 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.30

Check

tolerance \*NW : +- 0.75

Start of delivery mark

Barrel no. : 1

# BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.00 Tolerance mm : + 0.05

Tolerance mm : + U.U5

Del. quantity

cm3/1000 strokes : 415.0

		+ guide sleeve
Tolerance		travel mm : 11.50
cm3/1000 strokes	: + 1.5	Tolerance mm : + 0.50
		1000.000
Check tolerance		
cm3/1000s.	: +- 5.0	GUIDE SLEEVE POSITION
	-	<del>-</del>
Spreed	•	Rated speed rpm : 1030
Tolerance	. 70	Double Americal Company of CO
cm3/1000 strokes	: 7.0	Rack travel in mm: 11.00
Check tolerance		Tolerance mm : +- 2.00
cm3/1000s.	: 11.0	
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	FULL LOAD DELIVERY AT FULL LOAD STOP
Del. quantity		
cm3/1000 strokes	: 20.0	Rated speed rpm : 700
Tolerance		Aneroid pressure
cm3/1000 strokes	: <del>+- 3.0</del>	+ hPa : 1600
Check tolerance		Del. quantity
cm3/1000s.	: <del>+</del> 6.0	cm3/1000 strokes : 415.0
Spreed	•	Tolerance
Tolerance cm3/1000 strokes	: 7.0	+ cm3/1000 strokes : +- 1.5 - Check tolerance
Check tolerance	: 7.0	+ cm3/1000s. : + 5.0
cm3/1000s.	: 11.0	+ Spreed
C11127 10003.		Tolerance
		cm3/1000 strokes : 7.0
(B) SETTING OF IN	JECTION PUMP -	Check tolerance
WITH GOVERNOR	•	cm3/1000s. : 11.0
		<u>ì</u>
	•	T
GUIDE SLEEVE TRAV	EL -	RATED SPEED
	•	RATED SPEED
Rated speed rpm	: 250	
	•	control lever
Rated speed rpm guide sleeve	: 250	control lever
Rated speed rpm guide sleeve travel mm	: 250 : 1.12 : + 0.25	control lever position degree : 66.0 tolerance degree : +- 4.0
Rated speed rpm guide sleeve travel mm Tolerance mm	: 250 : 1.12	control lever position degree : 66.0 tolerance degree : +- 4.0 control lever
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	: 250 : 1.12 : + 0.25 : 979	control lever position degree : 66.0 tolerance degree : +- 4.0  control lever position degree : 122.0
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm	: 250 : 1.12 : ← 0.25 : 979 : 8.54	control lever position degree : 66.0 tolerance degree : +- 4.0 control lever
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	: 250 : 1.12 : + 0.25 : 979	control lever position degree : 66.0 tolerance degree : +- 4.0  control lever position degree : 122.0 tolerance degree : +- 4.0
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 250 : 1.12 : + 0.25 : 979 : 8.54 : + 0.25	control lever position degree : 66.0 tolerance degree : + 4.0  control lever position degree : 122.0 tolerance degree : + 4.0  rack travel mm : 12.00
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm	: 250 : 1.12 : ← 0.25 : 979 : 8.54	control lever position degree : 66.0 tolerance degree : +- 4.0  control lever position degree : 122.0 tolerance degree : +- 4.0  rack travel mm : 12.00 Rated speed rpm : 965
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm	: 250 : 1.12 : → 0.25 : 979 : 8.54 : → 0.25 : 315	control lever position degree : 66.0 tolerance degree : + 4.0  control lever position degree : 122.0 tolerance degree : + 4.0  rack travel mm : 12.00
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm	: 250 : 1.12 : ← 0.25 : 979 : 8.54 : ← 0.25 : 315 : 1.98	control lever position degree : 66.0 tolerance degree : +- 4.0  control lever position degree : 122.0 tolerance degree : +- 4.0  rack travel mm : 12.00 Rated speed rpm : 965 Tolerance 1/min : +- 5
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm	: 250 : 1.12 : → 0.25 : 979 : 8.54 : → 0.25 : 315	control lever position degree : 66.0 tolerance degree : +- 4.0  control lever position degree : 122.0 tolerance degree : +- 4.0  rack travel mm : 12.00 Rated speed rpm : 965 Tolerance 1/min : +- 5  rack travel mm : 4.00
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm	: 250 : 1.12 : ← 0.25 : 979 : 8.54 : ← 0.25 : 315 : 1.98	control lever position degree : 66.0 tolerance degree : +- 4.0  control lever position degree : 122.0 tolerance degree : +- 4.0  rack travel mm : 12.00 Rated speed rpm : 965 Tolerance 1/min : +- 5
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Tolerance mm Tolerance mm	: 250 : 1.12 : ← 0.25 : 979 : 8.54 : ← 0.25 : 315 : 1.98 : ← 0.25 : 365	control lever position degree : 66.0 tolerance degree : +- 4.0  control lever position degree : 122.0 tolerance degree : +- 4.0  rack travel mm : 12.00 Rated speed rpm : 965 Tolerance 1/min : +- 5  rack travel mm : 4.00 Rated speed rpm : 1040 Tolerance 1/min : +- 15
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 250 : 1.12 : + 0.25 : 979 : 8.54 : + 0.25 : 315 : 1.98 : + 0.25 : 365 : 2.47	control lever position degree : 66.0 tolerance degree : +- 4.0  control lever position degree : 122.0 tolerance degree : +- 4.0  rack travel mm : 12.00 Rated speed rpm : 965 Tolerance 1/min : +- 5  rack travel mm : 4.00 Rated speed rpm : 1040 Tolerance 1/min : +- 15  rack travel mm : 0.50
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 250 : 1.12 : ← 0.25 : 979 : 8.54 : ← 0.25 : 315 : 1.98 : ← 0.25 : 365	control lever position degree : 66.0 tolerance degree : +- 4.0  control lever position degree : 122.0 tolerance degree : +- 4.0  rack travel mm : 12.00 Rated speed rpm : 965 Tolerance 1/min : +- 5  rack travel mm : 4.00 Rated speed rpm : 1040 Tolerance 1/min : +- 15  rack travel mm : 0.50 Tolerance mm : +- 0.50
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 250 : 1.12 : + 0.25 : 979 : 8.54 : + 0.25 : 315 : 1.98 : + 0.25 : 365 : 2.47 : + 0.25	control lever position degree : 66.0 tolerance degree : +- 4.0  control lever position degree : 122.0 tolerance degree : +- 4.0  rack travel mm : 12.00 Rated speed rpm : 965 Tolerance 1/min : +- 5  rack travel mm : 4.00 Rated speed rpm : 1040 Tolerance 1/min : +- 15  rack travel mm : 0.50
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 250 : 1.12 : + 0.25 : 979 : 8.54 : + 0.25 : 315 : 1.98 : + 0.25 : 365 : 2.47	control lever position degree : 66.0 tolerance degree : +- 4.0  control lever position degree : 122.0 tolerance degree : +- 4.0  rack travel mm : 12.00 Rated speed rpm : 965 Tolerance 1/min : +- 5  rack travel mm : 4.00 Rated speed rpm : 1040 Tolerance 1/min : +- 15  rack travel mm : 0.50 Tolerance mm : +- 0.50
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 250 : 1.12 : + 0.25 : 979 : 8.54 : + 0.25 : 315 : 1.98 : + 0.25 : 365 : 2.47 : + 0.25 : 660	control lever position degree : 66.0 tolerance degree : + 4.0  control lever position degree : 122.0 tolerance degree : + 4.0  rack travel mm : 12.00 Rated speed rpm : 965 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1040 Tolerance 1/min : + 15  rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1180
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 250 : 1.12 : + 0.25 : 979 : 8.54 : + 0.25 : 315 : 1.98 : + 0.25 : 365 : 2.47 : + 0.25 : 660 : 4.49	control lever position degree : 66.0 tolerance degree : +- 4.0  control lever position degree : 122.0 tolerance degree : +- 4.0  rack travel mm : 12.00 Rated speed rpm : 965 Tolerance 1/min : +- 5  rack travel mm : 4.00 Rated speed rpm : 1040 Tolerance 1/min : +- 15  rack travel mm : 0.50 Tolerance mm : +- 0.50
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 250 : 1.12 : + 0.25 : 979 : 8.54 : + 0.25 : 315 : 1.98 : + 0.25 : 365 : 2.47 : + 0.25 : 660	control lever position degree : 66.0 tolerance degree : + 4.0  control lever position degree : 122.0 tolerance degree : + 4.0  rack travel mm : 12.00 Rated speed rpm : 965 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1040 Tolerance 1/min : + 15  rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1180
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Tolerance mm Tolerance mm	: 250 : 1.12 : + 0.25 : 979 : 8.54 : + 0.25 : 315 : 1.98 : + 0.25 : 365 : 2.47 : + 0.25 : 660 : 4.49 : + 0.25	control lever position degree : 66.0 tolerance degree : + 4.0  control lever position degree : 122.0 tolerance degree : + 4.0  rack travel mm : 12.00 Rated speed rpm : 965 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1040 Tolerance 1/min : + 15  rack travel mm : 0.50 Tolerance mm : 0.50 Rated speed rpm : 1180  LOW IDLE
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 250 : 1.12 : + 0.25 : 979 : 8.54 : + 0.25 : 315 : 1.98 : + 0.25 : 365 : 2.47 : + 0.25 : 660 : 4.49 : + 0.25	control lever position degree : 66.0 tolerance degree : + 4.0  control lever position degree : 122.0 tolerance degree : + 4.0  rack travel mm : 12.00 Rated speed rpm : 965 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1040 Tolerance 1/min : + 15  rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1180

tolerance degree control lever position degree tolerance degree Testing: Rated speed rpm rack travel mm Tolerance mm	: 15.0 : + 4.0 : 250	Rated speed rpm : 700  Del. quantity  cm3/1000 strokes : 257.0  Tolerance  cm3/1000 strokes : + 1.5  Check tolerance  cm3/1000s. : + 5.0  BREAKAWAY
Tolerance man Rated speed rpm CRT mm min. Rated speed rpm	: 150 : > 6.00	Rack travel in mm: 12.00 Rated speed rpm: 965 Tolerance 1/min: + 5
TORQUE CONTROL  Rated speed rpm rack travel mm Tolerance mm	: 700 : 13.00 : ← 0.05	STARTING FUEL DELIVERY  Rated speed rpm : 100  rack travel mm : 15.00  Tolerance mm : +- 0.50
ANEROID/ALTITUDE COMPENSATOR TEST SETTING		LOW IDLE  Del. quantity  cm3/1000 strokes : 20.0
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 1600 : 13.00	Tolerance
Pressure hPa Rated speed rpm rack travel mm Tolerance mm Rated speed rpm	: 500	+ Check tolerance + cm3/1000s. : 11.0
Pressure hPa	: 1100 : 3.35	End of test specification sheet
FUEL DELIVERY CHA Aneroid pressure hPa	RACTERISTICS: -	

C02

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 13.09.95 Test oil : ISO 4113

Combination No. : 0 402 646 658

Injection pump

Pump designation : PE6P130A720RS7371 EP type number : 0 412 636 837

Governor

Governer design. : RQV250...900PA1215 Governer no. : 0 421 814 139

Cust. part No. : 3825482-PO2 v.02/95

Customer-spec. information
Customer : PENTA
Motor : TAMD 163 A

Power kW : 405.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Vibration damper

(RoBo diaphragm) : 3.1

Test oil inlet

temp.  $^{\circ}$ C : 40 Tolerance  $^{\circ}$ C : + 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity

min. L/h : 60 Tolerance L/h : + 10.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.70
Tolerance mm : + 0.05

test only :  $\leftarrow$  0.10

Rack travel in mm : 7.40Tolerance mm :  $\leftarrow 0.50$ 

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance :  $\leftarrow$  0.30

Check

tolerance "NW : +- 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 900

Rack travel in mm : 12.70 Tolerance mm : + 0.05

	+ Rated speed rpm : 650
Del. quantity	+ guide sleeve
cm3/1000 strokes : 363.0	+ travel mm : 4.40
	+ Tolerance mm : + 0.25
Tolerance	+
cm3/1000 strokes : + 1.5	Rated speed rpm : 1160
	† guide sleeve
Check tolerance	† travel mm : 11.50
cm3/1000s. : +- 5.0	† Tolerance mm : + 0.50
O a second	†
Spreed	CHIRC CLECKE DOCTION
Tolerance cm3/1000 strokes : 9.0	+ GUIDE SLEEVE POSITION
CIRD/ TOOG SCHOKES . 9.0	Rated speed rpm : 1030
Check tolerance	T Rated Speed (pill : 1000
cm3/1000s. : 12.0	Rack travel in mm: 11.00
1 12.0	Tolerance mm : +- 2.00
Rated speed rpm : 250	Total and that
Rack travel in mm : 5.00	FULL LOAD DELIVERY AT FULL LOAD STOP
Tolerance mm : + 0.30	1
Del. quantity	+ Rated speed rpm : 900
cm3/1000 strokes : 25.0	+ Aneroid pressure
Tolerance	+ hPa : 1500
cm3/1000 strokes : +- 3.0	- Del. quantity
Check tolerance	+ cm3/1000 strokes : 363.0
cm3/1000s. : + 6.0	† Tolerance
Spreed	+ cm3/1000 strokes : +- 1.5
Tolerance 5.0	+ Check tolerance
cm3/1000 strokes : 5.0 Check tolerance	+ cm3/1000s. : +- 5.0
T. 1000 - 0 0	+ Spreed + Tolerance
cm3/1000s. : 8.0	+ cm3/1000 strokes : 9.0
	+ Check tolerance
(B) SETTING OF INJECTION PUMP	+ cm3/1000s. : 12.0
WITH GOVERNOR	+
	+ RATED SPEED
GUIDE SLEEVE TRAVEL	+
252	
Rated speed rpm : 250	t control lever position degree : 63.0
guide sleeve travel mm : 1.12	+ position degree : 63.0 + tolerance degree : + 4.0
Tolerance mm : + 0.25	totarante degree 4.0
TOTAL MILES THE TOTAL STREET	+ control lever
Rated speed rpm : 959	position degree : 118.0
guide sleeve	+ tolerance degree : +- 4.0
travel mm : 8.22	+
Tolerance mm : +- 0.25	† rack travel mm : 11.70
	+ Rated speed rpm : 930
Rated speed rpm : 315	† Tolerance 1/min : +- 5
guide steeve	+
travel mm : 1.98	rack travel mm : 4.00
Tolerance mm : + 0.25	Rated speed rpm : 1010
Dated aread non . 7/5	Tolerance 1/min : + 15
Rated speed rpm : 365	rack travel mm : 0.50
guide sleeve travel mm : 2.47	+ Tolerance mm : + 0.50
Tolerance mm : +- 0.25	Rated speed rpm : 1100
reterance non	hatea speca (piii) . (100
	ı

		+			240
FOM IDE		<del></del> ‡	Pressure hPa rack travel mm Tolerance mm		240 0.25 0.05
control lever position degree tolerance degree	: 71.0 : + 4.0	†	FUEL DELIVERY CHAI	RACTE	RISTICS
control lever position degree tolerance degree		†	Aneroid pressure hPa Rated speed rpm		1500 700
esting:		1	Del. quantity cm3/1000 strokes Tolerance	:	392.0
ated speed rpm ack travel mm olerance mm	: 250 : 5.00 : ← 0.30	+	cm3/1000 strokes Check tolerance cm3/1000s.	: +	
ated speed rpm	: 150	‡	Aneroid pressure		
T mm min.	: > 6.50	‡	hPa Rated speed rpm Del. quantity	:	700
ated speed rpm	: 350	Ī	cm3/1000 strokes Tolerance	:	190.0
DRQUE CONTROL		+	cm3/1000 strokes Check tolerance	: +-	
ated speed rpm ack travel mm blerance mm	: 900 : 12.70 : ← 0.05	†	cm3/1000s.  BREAKAWAY		5.0
ated speed rpm ack travel mm olerance mm	: 700 : 12.70 : + 0.10	† † †	Rack travel in mm Rated speed rpm Tolerance 1/min	: +	11.70 930 5
NEROID/ALTITUDE DMPENSATOR TEST		† †			
ETTING		Ī	LOW IDLE		
eted speed rpm ressure hPa rck travel mm rlerance mm	: 500 : 1500 : 12.70 : +- 0.05	+++++++++++++++++++++++++++++++++++++++	Rated speed rpm rack travel mm Tolerance mm	: : +-	250 5.00 0.30
MEASUREMENT		<del>+</del>	Del. quantity cm3/1000 strokes Tolerance	:	25.0
ressure hPa ated speed rpm	: - : 500	Ī	cm3/1000 strokes Check tolerance	: +-	3.0
ack travel mm olerance mm	: 7.40 : + 0.20	‡	cm3/1000s. Spreed	; +	6.0
ated speed rpm	: 500	†	Tolerance cm3/1000 strokes Check tolerance	:	5.0
Pressure hPa Pack travel mon Polerance mon	: 1000 : 4.30 : + 0.20	† † +	cm3/1000s.	•	8.0

Pressure hPa : 240 rack travel mm : 0.25 Tolerance mm : + 0.05
FUEL DELIVERY CHARACTERISTICS
Aneroid pressure hPa : 1500 Rated speed rpm : 700 Del. quantity cm3/1000 strokes : 392.0 Tolerance cm3/1000 strokes : + 3.0
Check tolerance cm3/1000S. : +- 6.0
Aneroid pressure hPa : - Rated speed rpm : 700 Del. quantity cm3/1000 strokes : 190.0 Tolerance cm3/1000 strokes : + 1.5 Check tolerance cm3/1000s. : + 5.0
BREAKAWAY
Rack travel in mm : 11.70 Rated speed rpm : 930 Tolerance 1/min : + 5
LOW IDLE
Rated speed rpm : 250 rack travel mm : 5.00 Tolerance mm : +- 0.30 Del. quantity cm3/1000 strokes : 25.0
Tolerance cm3/1000 strokes : + 3.0
Check tolerance cm3/1000S. : +- 6.0

BOSCH INJ. PUMP TEST SPI	ECIFICATIONS ±	x inside diameter x length mm	
Note remarks	1	A CONSCITULE	. 500
Refer to Service Info for adjustment instructions See microcard(s) W400/.		REMARKS	
Edition : 21.0 Test oil : ISO	4113	(A) INJECTION PUM Set equal delivery	y quant.
Combination No. : 0 40	12 646 664	per values	we.
Injection pump Pump designation : PE6 EP type number : 0 4		BEGINNING OF DELIV	
Governor Governer design. : RQV3 Governer no. : 0 42	3251000PA1256K	Tolerance bar	: +- 1.0
	‡	Prestroke mm Tolerance mm	: 5.80 : +- 0.05
Cust. part No. :		test only	: + 0.10
Customer-spec. informaticustomer : LIA2 Motor : ML63	! <del>}</del>	Rack travel in mm Tolerance mm	
Power KW : 175		Firing order	: 1-5- 3- 6- 2- : 4
TEST BENCH REQUIREMENTS	-		
Inlet line : 3.1	†	Tolerance	: 0-60-120-180-240 : -300 : ← 0.30
Test oil inlet temp. °C : Tolerance °C :+-	40 2.0	Check tolerance °NW	: +- 0.50
	‡	BASIC SETTING	
Overflow valve : 1 41	7 413 025	Rated speed rpm	: 1000
<pre>Inlet press. bar : Tolerance bar : +-</pre>	1.5	Rack travel in mm Tolerance mm	: 13.80 : +- 0.05
Test nozzle holde assembly : 1 68	8 901 105	Del. quantity cm3/1000 strokes	: 215.0
Opening pressure 2	08.5 <del> </del>	Tolerance cm3/1000 strokes	: + 1.0
Tolerance bar : +-	1.5	Check tolerance cm3/1000s.	: +- 4.0
Test lines : 1 68	0 750 089	Spreed Tolerance	
Outside diameter :	3.0	cm3/1000 strokes	: 5.0

<b>61</b> ( <b>A</b> - <b>1</b> )		. 🕇	
Check tolerance	: 9.0	FIRE LOAD DELTHERY AT FIRE LO	AA CTAD
cm3/1000s.	: 9.0	FULL LOAD DELIVERY AT FULL LO	AD STOP
Rated speed rpm	: 325	Rated speed rpm : 1000	
THE CO OF COM THE		+ Aneroid pressure	
Rack travel in mr	n: 4.40	+ hPa : 1500	
Tolerance mm		+ Del. quantity	
Del. quantity		+ cm3/1000 strokes : 215.0	
cm3/1000 strokes	: 38.0	† Tolerance	
Tolerance		+ cm3/1000 strokes : + 1.0	
cm3/1000 strokes	: ← 3.0	+ Check tolerance	
Check tolerance		+ cm3/1000s. : $+$ 4.0	
cm3/1000s.	: +- 6.0	Spreed	
Spreed		+ Tolerance	
Tolerance		+ cm3/1000 strokes : 5.0	
cm3/1000 strokes		+ Check tolerance	
Check tolerance		+ cm3/1000s. : 9.0	
cm3/1000s.	: 12.0	†	
		+ RATED SPEED	
(B) SETTING OF IN	JIECTION PUMP	I MIEU SPEED	
WITH GOVERNOR	AUTOLIOIA LAILL	I	
MILLI GOACUAON		T + control lever	
		position degree : 65.0	
GUIDE SLEEVE TRAV	iEl	tolerance degree : + 4.0	
OOIDE OEEELE TANK	, 60	total and degree .	
Rated speed rpm	: 325	+ control lever	
guide sleeve		position degree : 119.0	
travel mm	: 1.47	+ tolerance degree : +- 4.0	
Tolerance mm	: ← 0.20	+	
		+ rack travel mm : 12.80	
Rated speed rpm	: 1057	+ Rated speed rpm : 1045	
guide sleeve		+ Tolerance 1/min : + 5	
travel mm	: 9.78	+	
Tolerance mm	: +- 0.15	+ rack travel mm : 4.00	
		+ Rated speed rpm : 1145	
Rated speed rpm	: 831	+ Tolerance 1/min : +- 15	
guide sleeve		†	
travel mm	: 6.95	+ rack travel mm : 0.50	
Tolerance mm	: +- 0.25	+ Tolerance mm : + 0.50	
	550	+ Rated speed rpm : 1200	
Rated speed rom	: 550	†	
guide sleeve	. <b>7</b> 7/	LOU TOUR	
travel mm	: 3.76	+ LOW IDLE	
Tolerance mm	: <b></b> 0.25	†	
Dated colonel non	: 1290	t control lever	
Rated speed rpm guide sleeve	. 1270	+ position degree : 69.0	
travel mm	: 13.50	tolerance degree : +- 4.0	
Tolerance mm	: + 0.50	total differ degree 4.0	
IOTEL BINCE IIIII	0.20	T control lever	
		position degree : 15.0	
GUIDE SLEEVE POSI	TION	tolerance degree : + 4.0	
GATAM OFFICE LOOT	. 44.7	1	
Rated speed rpm	: 1140	Testing:	
A SECTION OF THE PROPERTY OF T		+	
Rack travel in mm		Rated speed rpm : 325	
Tolerance mm		+ rack travel mm : 4.40	
		† Tolerance mm : +- 0.10	

		<b>†</b>
Rated speed rpm	: 225	Aneroid pressure
***		+ hPa : 1500
CRT mm min.	: > 6.00	Rated speed rpm : 700  Del. quantity
Rated speed rpm	: 350	+ cm3/1000 strokes : 230.0
		Tolerance
TODOUE CONTDOL		
TORQUE CONTROL		+ Check tolerance + cm3/1000s. : + 6.0
Rated speed rpm	: 1000	+
rack travel mm Tolerance mm	: 13.80	Aneroid pressure
Tolerance mm	: <b>-</b> 0.05	+ hPa : - Rated speed rpm : 500
Rated speed rpm	: 700	+ Rated speed rpm : 500 + Del. quantity
rack travel mm		cm3/1000 strokes : 191.0
Tolerance mm		Tolerance
Dahad acceptons	. (00	hPa : - Rated speed rpm : 500  Del. quantity cm3/1000 strokes : 191.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance
Rated speed rpm rack travel mm	: 600 : 12.85	+ Check tolerance + cm3/1000s. : ← 4.0
Tolerance mm		T CIRD/ 10000 4.0
ANICOATA (AL TITLE)		BREAKAWAY
ANEROID/ALTITUDE COMPENSATOR TEST		1
TONIENSATUR TEST		+ Rack travel in mm: 12.80
		+ Rated speed rpm : 1045
SETTING		Tolerance 1/min : +- 5
Datad amage was	: 1000	†
Rated speed rpm Pressure hPa	: 1500	
rack travel mm		STARTING FUEL DELIVERY
Tolerance mm		+
MEACHDEMENT		Rated speed rpm : 100
MEASUREMENT		+ Del. quantity + cm3/1000 strokes : 300.0
Pressure hPa	6	Tolerance
Rated speed rpm		- cm3/1000 strokes : +- 20.0
rack travel mm	: 11.15	- Check tolerance
Tolerance mm	: ← 0.10	+ cm3/1000s. : +- 24.0
Rated speed rpm	: 1900	I I
·		+
Pressure hPa	: 260	1011 701 7
rack travel mm	: 11.70	+ LOW IDLE
Tolerance mm	: 0.20	Rated speed rpm : 325
Pressure hPa	: 370	+ rack travel mm : 4.40
rack travel mm	: 13.20	→ Tolerance mm : → 0.30
Tolerance mm	: ← 0.05	Del. quantity
START CUT-OUT		
Cimity GOT OO!		Check tolerance
Rated speed rpm	: < 255	+ cm3/1000s. : +- 6.0
Check	0.00	Spreed
speed 1/min	: < 265	+ Tolerance + cm3/1000 strokes : 8.0
FUEL DELIVERY CHA	RACTERISTICS	+ cm3/1000s. : 12.0
		· · · · · · · · · · · · · · · · · · ·

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W4DD/...

Edition : 08.09.95 Test oil : ISO 4113

Combination No. : 0 402 646 744

Injection pump

Pump designation : PE6P120A320LS7872 EP type number : 0 412 626 912

Governor

Governer design. : RQV300...1050PA1259

Governer no. : 0 421 814 169

Cust. part No. : 04221532 KY 0165-17

Customer-spec. information

Customer : KHD

Motor : BF6M1015C Power KW : 270.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 4.05Tolerance mm :  $\leftarrow 0.05$ 

test only  $: \leftarrow 0.10$ 

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-6-3-5-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.30

Check

tolerance \*NW : +- 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 13.70

Tolerance mm :  $\leftarrow$  0.05

Del. quantity

cm3/1000 strokes : 328.0

Tolerance

cm3/1000 strokes :  $\leftarrow$  1.0

Check tolerance

cm3/1000s. : +- 4.0

	†
Spreed -	CHIEF OF PEUP DOCTION
Tolerance	GUIDE SLEEVE POSITION
cm3/1000 strokes : 6.0 -	
	Rated speed rpm : 1118
Check tolerance	
cm3/1000s. : 9.0 -	Rack travel in mm: 12.70
	Tolerance mm : + 1.30
Rated speed rpm : 300 -	+
7	
Rack travel in mm: 5.00	FULL LOAD DELIVERY AT FULL LOAD STOP
Tolerance mm : + 0.20	
Del. quantity	- Rated speed rpm : 1050
cm3/1000 strokes : 23.0	Aneroid pressure
Tolerance	hPa : 1700
$cm3/1000$ strokes : $\leftarrow$ 3.0	Del. quantity
Check tolerance -	- cm3/1000 strokes : 328.0
cm3/1000s. : +- 6.0	Tolerance
Spreed	cm3/1000 strokes : +- 1.0
Tolerance	Check tolerance
cm3/1000 strokes : 8.0	cm3/1000s. : + 4.0
Check tolerance	Spreed
cm3/1000s. : 12.0	Tolerance
	cm3/1000 strokes : 6.0
	Check tolerance
(B) SETTING OF INJECTION PUMP	- cm3/1000s. 9.0
WITH GOVERNOR	
And the second of the second o	
	RATED SPEED
GUIDE SLEEVE TRAVEL	
Rated speed rpm : 300	control lever
guide sleeve	position degree : 121.0
travel mm : 1.24	tolerance degree : + 4.0
Tolerance mm : + 0.20	L 7.0
7000, 2,100 1127	rack travel mm : 12.70
Rated speed rpm : 1098	Rated speed rpm : 1085
guide sleeve	- Tolerance 1/min : +- 5
travel mm : 10.02	L STATE TO THE STATE OF THE STA
Tolerance mm : +- 0.15	rack travel mm : 4.00
To ceratice this	Rated speed rpm : 1125
Rated speed rpm : 860	Tolerance 1/min : +- 15
guide steeve	L rocerence min . 15
travel mm : 5.59	rack travel mm : 0.50
Tolerance mm : + 0.25	Tolerance mm : +- 0.50
TOLE: drice (AN)	Rated speed rpm : 1280
Rated speed rpm : 560	L Maren speed rpm . 1200
guide sleeve travel mm : 3.24	LOW IDLE
	LOW IDEC
Tolerance mm : + 0.25	<del>-</del>
Rated speed rom : 1154	- control lever
guide sleeve	position degree : 77.0
travel mm : 12.00	tolerance degree : +- 4.0
Tolerance mm : +- 0.25	Tankina
0.4.1	- Testing:
Rated speed rpm : 1230	Dahad anadas 200
guide sleeve	- Rated speed rpm : 300
travel mm : 13.50	- rack travel mm : 5.00
Tolerance mm : + 0.50 +	Tolerance mm : + 0.10

200 Rated speed rpm : : > 8.00 CRT mm min. 345 Rated speed rpm TORQUE CONTROL 1050 Rated speed rom rack travel mm 13,70 Tolerance mm : +- 0.05 ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm 400 Pressure hPa 1700 13.70 rack travel mm : +- 0.05 Tolerance mm **MEASUREMENT** Pressure hPa 400 Rated speed rpm 8.70 rack travel mm : +- 0.20 Tolerance mm Rated speed rpm 400 . 450 Pressure hPa 10.00 rack travel mm : +- 0.10 Tolerance mm 1000 Pressure hPa rack travel mm 12.50 : +- 0.05 Tolerance mm START CUT-OUT 220 Rated speed rpm : < Check speed 1/min : < 240 FUEL DELIVERY CHARACTERISTICS Aneroid pressure 400 Rated speed rpm Del. quantity cm3/1000 strokes : 230.0 Tolerance

: +- 4.0 cm3/1000s. BREAKAWAY Rack travel in mm: 12.70 Rated speed rpm : 1085 Tolerance 1/min : +-STARTING FUEL DELIVERY Rated speed rpm 100 Del. quantity cm3/1000 strokes : 190.0 Tolerance cm3/1000 strokes : + 20.0Check tolerance cm3/1000s. : +- 24.0 LOW IDLE Rated speed rpm 300 : 5.00 rack travel mm : Tolerance mm : +- 0.20 Del. quantity cm3/1000 strokes : 23.0 Tolerance cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000s. 6.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. 12.0 End of test specification sheet

Check tolerance

cm3/1000 strokes :  $\leftarrow$  1.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 20.06.95 : ISO 4113 Test oil

Combination No. : 0 402 646 951

Injection pump

Pump designation : PE6P120A720RS7188

: -10

EP type number : 0 412 626 924

Governor

Governer design. : RQ200...950PA745-3 Governer no. : 0 421 801 579

Cust. part No. : 1332288

Customer-spec. information Customer : SCANIA Motor : DSC 11 77

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Vibration

damper

(RoBo diaphragm) : 3.1

Test oil inlet

: 40 temp. °C Tolerance °C

Overflow valve : 1 417 413 025

2.5 Inlet press. bar : Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 104 assembly

Opening pressure

: 251.5 bar Tolerance bar : + 1.5 Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

Start-of-delivery setting with ROBO

diaphragm.

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : +- 1.0

Prestroke mm : 4.45 Tolerance mm : +- 0.05

test only : +- 0.10

Rack travel in mm: 10.50 : + 1.50 Tolerance mm

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

: +- 0.30 Tolerance

Check

tolerance \*NW : + 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

700 Rated speed rpm :

Rack travel in mm: 11.15 Tolerance mm: +- 0.05

Del. quantity +	- guide sleeve
cm3/1000 strokes : 171.0	- travel mm : 4.50
	Tolerance mm : +- 0.10
Tolerance	
cm3/1000 strokes : +- 1.0	Rated speed rpm : 1045
chis/ todd strokes : +- 1.0	
***************************************	guide sleeve
Check tolerance +	travel mm : 5.50
cm3/1000s. : $\leftarrow$ 4.0	Tolerance mm : +- 0.10
+	•
Spreed	Rated speed rpm : 1360
Tolerance	guide sleeve
cm3/1000 strokes : 8.0	travel mm : 11.50
choriado serakes . 0.0	Tolerance mm : +- 0.50
	Toterance and : == 0.00
Check tolerance	•
cm3/1000s. : 12.0	
+	GUIDE SLEEVE POSITION
Rated speed rpm : 225	
<del> </del>	Rated speed rpm : 500
Rack travel in mm: 4.80	,
Tolerance mm : + 0.30	Rack travel in mm: 20.00
· · · · · · · · · · · · · · · · · · ·	Tolerance mm : +- 0.80
Del. quantity	roterance mm : - 0.00
cm3/1000 strokes : 14.0	
Tolerance	
cm3/1000 strokes : $\leftarrow$ 3.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance +	
cm3/1000s. : +- 6.0	Rated speed rpm : 700
Spreed	Aneroid pressure
Tolerance	hPa : -
cm3/1000 strokes : 4.0	Del. quantity
Check tolerance +	cm3/1000 strokes : 171.0
Check tolerance + cm3/1000S. : 8.0 +	Tolerance
	Tolerance cm3/1000 strokes : +- 1.0
cm3/1000s. : 8.0	Tolerance cm3/1000 strokes : +- 1.0 Check tolerance
cm3/1000s. : 8.0	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0
cm3/1000s. : 8.0	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000S. : + 4.0 Spreed
cm3/1000s. : 8.0	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000S. : + 4.0 Spreed Tolerance
cm3/1000s. : 8.0  (B) SETTING OF INJECTION PUMP WITH GOVERNOR	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000S. : + 4.0 Spreed Tolerance cm3/1000 strokes : 8.0
cm3/1000s. : 8.0	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance
cm3/1000s. : 8.0  (B) SETTING OF INJECTION PUMP WITH GOVERNOR  GUIDE SLEEVE TRAVEL	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000S. : + 4.0 Spreed Tolerance cm3/1000 strokes : 8.0
cm3/1000s. : 8.0  (B) SETTING OF INJECTION PUMP WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 225	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance
cm3/1000s. : 8.0  (B) SETTING OF INJECTION PUMP WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 225 guide sleeve	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance
cm3/1000s. : 8.0  (B) SETTING OF INJECTION PUMP WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 225	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance
cm3/1000s. : 8.0  (B) SETTING OF INJECTION PUMP WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 225 guide sleeve travel mm : 1.13	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0
cm3/1000s. : 8.0  (B) SETTING OF INJECTION PUMP WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 225 guide sleeve	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0
Cm3/1000s. : 8.0  (B) SETTING OF INJECTION PUMP WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 225 guide sleeve travel mm : 1.13 Tolerance mm : + 0.20	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0  RATED SPEED
Cm3/1000s. : 8.0  (B) SETTING OF INJECTION PUMP WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 225 guide sleeve travel mm : 1.13 Tolerance mm : + 0.20  Rated speed rpm : 1006	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000S. : + 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000S. : 12.0  RATED SPEED
Cm3/1000s. : 8.0  (B) SETTING OF INJECTION PUMP WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 225 guide sleeve travel mm : 1.13 Tolerance mm : + 0.20  Rated speed rpm : 1006 guide sleeve	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000S. : + 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000S. : 12.0  RATED SPEED  control lever position degree : 44.0
Cm3/1000s. : 8.0  (B) SETTING OF INJECTION PUMP WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 225 guide sleeve travel mm : 1.13 Tolerance mm : 4.00  Rated speed rpm : 1006 guide sleeve travel mm : 4.90	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000S. : + 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000S. : 12.0  RATED SPEED
Cm3/1000s. : 8.0  (B) SETTING OF INJECTION PUMP WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 225 guide sleeve travel mm : 1.13 Tolerance mm : + 0.20  Rated speed rpm : 1006 guide sleeve	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000S. : + 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000S. : 12.0  RATED SPEED  control lever position degree : 44.0 tolerance degree : +- 4.0
Cm3/1000s. : 8.0  (B) SETTING OF INJECTION PUMP WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 225 guide sleeve travel mm : 1.13 Tolerance mm : 4.90 Tolerance mm : 4.90 Tolerance mm : 4.90 Tolerance mm : 4.90	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0  RATED SPEED  control lever position degree : 44.0 tolerance degree : +- 4.0  control lever
Cm3/1000s. : 8.0  (B) SETTING OF INJECTION PUMP WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 225 guide sleeve travel mm : 1.13 Tolerance mm : + 0.20  Rated speed rpm : 1006 guide sleeve travel mm : 4.90 Tolerance mm : + 0.15	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000S. : + 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000S. : 12.0  RATED SPEED  control lever position degree : 44.0 tolerance degree : +- 4.0
Cm3/1000s. : 8.0  (B) SETTING OF INJECTION PUMP WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 225 guide sleeve travel mm : 1.13 Tolerance mm : 4.90 Tolerance mm : 4.90 Tolerance mm : 4.90 Tolerance mm : 4.90 Rated speed rpm : 930	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0  RATED SPEED  control lever position degree : 44.0 tolerance degree : +- 4.0  control lever position degree : 98.0
Cm3/1000s. : 8.0  (B) SETTING OF INJECTION PUMP WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 225 guide sleeve travel mm : 1.13 Tolerance mm : 4.90 Tolerance mm : 4.90 Tolerance mm : 4.90 Tolerance mm : 930 guide sleeve quide sleeve quide sleeve	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0  RATED SPEED  control lever position degree : 44.0 tolerance degree : +- 4.0  control lever position degree : 98.0
Cm3/1000s. : 8.0  (B) SETTING OF INJECTION PUMP WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 225 guide sleeve travel mm : 1.13 Tolerance mm : 4.20  Rated speed rpm : 1006 guide sleeve travel mm : 4.90 Tolerance mm : 4.90 Tolerance mm : 4.90 Tolerance mm : 4.90 Tolerance mm : 4.90 guide sleeve travel mm : 4.50	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0  RATED SPEED  control lever position degree : 44.0 tolerance degree : + 4.0  control lever position degree : 98.0 tolerance degree : + 4.0
Cm3/1000s. : 8.0  (B) SETTING OF INJECTION PUMP WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 225 guide sleeve travel mm : 1.13 Tolerance mm : 4.90 Tolerance mm : 4.90 Tolerance mm : 4.90 Tolerance mm : 930 guide sleeve quide sleeve quide sleeve	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0  RATED SPEED  control lever position degree : 44.0 tolerance degree : + 4.0  control lever position degree : 98.0 tolerance degree : + 4.0  rack travel mm : 10.10
Cm3/1000s. : 8.0  (B) SETTING OF INJECTION PUMP WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 225 guide sleeve travel mm : 1.13 Tolerance mm : 4.90 Rated speed rpm : 4.90 Tolerance mm : 4.90 Tolerance mm : 930 guide sleeve travel mm : 930 guide sleeve travel mm : 4.50 Tolerance mm : 4.50 Tolerance mm : 4.50	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0  RATED SPEED  control lever position degree : 44.0 tolerance degree : + 4.0  control lever position degree : 98.0 tolerance degree : + 4.0  rack travel mm : 10.10 Rated speed rpm : 995
Cm3/1000s. : 8.0  (B) SETTING OF INJECTION PUMP WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 225 guide sleeve travel mm : 1.13 Tolerance mm : 4.90 Rated speed rpm : 4.90 Tolerance mm : 4.90 Tolerance mm : 4.50 Rated speed rpm : 930 guide sleeve travel mm : 4.50 Tolerance mm : 4.50	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0  RATED SPEED  control lever position degree : 44.0 tolerance degree : + 4.0  control lever position degree : 98.0 tolerance degree : + 4.0  rack travel mm : 10.10
Cm3/1000s. : 8.0  (B) SETTING OF INJECTION PUMP WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 225 guide sleeve travel mm : 1.13 Tolerance mm : + 0.20  Rated speed rpm : 1006 guide sleeve travel mm : 4.90 Tolerance mm : + 0.15  Rated speed rpm : 930 guide sleeve travel mm : 4.50 Tolerance mm : + 0.10  Rated speed rpm : 343 guide sleeve	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0  RATED SPEED  control lever position degree : 44.0 tolerance degree : + 4.0  control lever position degree : 98.0 tolerance degree : + 4.0  rack travel mm : 10.10 Rated speed rpm : 995 Tolerance 1/min : + 5
Cm3/1000s. : 8.0  (B) SETTING OF INJECTION PUMP WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 225 guide sleeve travel mm : 1.13 Tolerance mm : 4.90 Rated speed rpm : 4.90 Tolerance mm : 4.90 Tolerance mm : 4.50 Rated speed rpm : 930 guide sleeve travel mm : 4.50 Tolerance mm : 4.50 Tolerance mm : 4.50 Tolerance mm : 4.50 Rated speed rpm : 343 guide sleeve travel mm : 343 guide sleeve travel mm : 2.76	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0  RATED SPEED  control lever position degree : 44.0 tolerance degree : +- 4.0  control lever position degree : 98.0 tolerance degree : +- 4.0  rack travel mm : 10.10 Rated speed rpm : 995 Tolerance 1/min : +- 5  rack travel mm : 4.00
Cm3/1000s. : 8.0  (B) SETTING OF INJECTION PUMP WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 225 guide sleeve travel mm : 1.13 Tolerance mm : + 0.20  Rated speed rpm : 1006 guide sleeve travel mm : 4.90 Tolerance mm : + 0.15  Rated speed rpm : 930 guide sleeve travel mm : 4.50 Tolerance mm : + 0.10  Rated speed rpm : 343 guide sleeve	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0  RATED SPEED  control lever position degree : 44.0 tolerance degree : + 4.0  control lever position degree : 98.0 tolerance degree : + 4.0  rack travel mm : 10.10 Rated speed rpm : 995 Tolerance 1/min : + 5
Cm3/1000s. : 8.0  (B) SETTING OF INJECTION PUMP WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 225 guide sleeve travel mm : 1.13 Tolerance mm : 4.90 Rated speed rpm : 4.90 Tolerance mm : 4.90 Tolerance mm : 4.50 Rated speed rpm : 930 guide sleeve travel mm : 4.50 Tolerance mm : 4.50 Tolerance mm : 4.50 Tolerance mm : 4.50 Rated speed rpm : 343 guide sleeve travel mm : 343 guide sleeve travel mm : 2.76	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0  RATED SPEED   control lever position degree : 44.0 tolerance degree : + 4.0  control lever position degree : 98.0 tolerance degree : + 4.0  rack travel mm : 10.10 Rated speed rpm : 995 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 120
Cm3/1000s. : 8.0  (B) SETTING OF INJECTION PUMP WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 225 guide sleeve travel mm : 1.13 Tolerance mm : 4.90 Rated speed rpm : 4.90 Tolerance mm : 4.90 Tolerance mm : 4.50 Rated speed rpm : 930 guide sleeve travel mm : 4.50 Tolerance mm : 4.50 Tolerance mm : 4.50 Tolerance mm : 4.50 Rated speed rpm : 343 guide sleeve travel mm : 343 guide sleeve travel mm : 2.76	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0  RATED SPEED  control lever position degree : 44.0 tolerance degree : + 4.0  control lever position degree : 98.0 tolerance degree : + 4.0  rack travel mm : 10.10 Rated speed rpm : 995 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1120

rack travel mm Tolerance mm Rated speed rpm	: <b>←</b> 0.50	Rated speed rpm : 500  Pressure hPa : 280  rack travel mm : 9.90  Tolerance mm : + 0.15
TO# IDLE		Pressure hPa : 420 + rack travel mm : 10.75 + Tolerance mm : +- 0.05
control lever position degree tolerance degree	: 64.0 : +- 4.0	Tolerance mm : + 0.05
control lever		FUEL DELIVERY CHARACTERISTICS
position degree tolerance degree	: 9.0 : + 4.0	+ Aneroid pressure + hPa : -
Testing:		Rated speed rpm : 950  Del. quantity
Rated speed rpm rack travel mm Tolerance mm	: 225 : 4.80	t cm3/1000 strokes : 171.0 Tolerance
		cm3/1000 strokes : +- 4.0 theck tolerance
rack travel mm Rated speed rpm Tolerance 1/min	: 340	+ cm3/1000s. : +- 6.0 + Aneroid pressure
Rated speed rpm		hPa : - Rated speed rpm : 500
CRT mm min.		Del. quantity + cm3/1000 strokes : 122.0
		+ Tolerance - cm3/1000 strokes : +- 1.0
TORQUE CONTROL	700	+ Check tolerance + cm3/1000s. : +- 4.0
Rated speed rpm	: 700 : 11.15	İ
rack travel mm Tolerance mm	: + 0.05	BREAKAWAY
Rated speed rpm rack travel mm Tolerance mm	: 11.15	Rack travel in mm : 10.10 Rated speed rpm : 995
Toterance min	0.03	Tolerance 1/min : +- 5
ANEROID/ALTITUDE COMPENSATOR TEST		STARTING FUEL DELIVERY
SETTING		Rated speed rpm : 100
Rated speed rpm		rack travel mm : 10.40 Tolerance mm : + 0.20
Pressure hPa rack travel mm Tolerance mm	: 1500 : 11.15 : ← 0.05	Tolerance cm3/1000 strokes : +- 20.0 Check tolerance
MEASUREMENT		cm3/1000s. : + 24.0
Pressure hPa Rated speed rpm rack travel mm Tolerance mm		LOW IDLE
		+ Rated speed rpm : 225

rack travel mm Tolerance mm	: +-	4.80 0.30
Del. quantity cm3/1000 strokes Tolerance	:	14.0
cm3/1000 strokes Check tolerance	: +-	3.0
cm3/1000s.	: +-	6.0
Tolerance cm3/1000 strokes Check tolerance	:	4.0
cm3/1000s.	:	8.0

BOSCH INJ. PUMP TEST SPECIFICATIONS Note remarks Refer to Service Info for test and adjustment instructions. See microcard(s) W400/... Edition : 17.05.95 Test oil : ISO 4113 Combination No. : 0 402 646 990 Injection pump Pump designation : PE6P130A720RS7225 EP type number : 0 412 636 817 Governor Governer design. : RQV300...950PA975 : -2K Governer no. : 0 421 815 310 Cust. part No. : Customer-spec. information Customer : IVECO-FRANCE : 8210.42.369 Motor TEST BENCH REQUIREMENTS Inlet line : 4.2 Test oil inlet temp. °C 40 Tolerance °C : +- 2.0 Overflow valve : 1 417 413 025 Inlet press. bar : 1.5 Tolerance bar : +- 0.1 Test nozzle holde : 1 688 901 105 assembly Opening pressure 208.5 bar Tolerance bar : + 1.5

: 1 680 750 075

x inside diameter: 3.0 x length mm : 1000 REMARKS (A) INJECTION PUMP SETTING VALUES Set equal delivery quant. per values \_\_\_\_\_ BEGINNING OF DELIVERY Test pressure bar : 26.0 Tolerance bar : + 1.0 Prestroke mm 5.05 : +- 0.05 Tolerance mm test only : ← 0.10 Rack travel in mm : 12.00 Tolerance mm : + 0.50 : 1-5-3-6-2-Firing order : 0-60-120-180-240 Phasing : -300 : +- 0.30 Tolerance Check tolerance "NW : +- 0.75 Start of delivery mark Barrel no. : BASIC SETTING Rated speed rpm : 950 Rack travel in mm: 12.15 Tolerance mm :  $\leftarrow$  0.05 Del. quantity cm3/1000 strokes : 269.0 Tolerance cm3/1000 strokes : +- 1.0Check tolerance cm3/1000s. : +- 4.0

Test lines

Outside diameter : 8.0

	+	Rated speed rpm	: 995
Spreed		Tolerance 1/min	
Tolerance	†		
cm3/1000 strokes	: 5.0	rack travel mm	
Check tolerance		Rated speed rpm Tolerance 1/min	
cm3/1000s.	: 8.0	rocerance mini	• • • • • • • • • • • • • • • • • • • •
	1	rack travel mm	: 0.50
Del. quantity	+	Tolerance mm	: +- 0.50
cm3/1000 strokes	: 29.0	Rated speed rpm	: 1200
Tolerance cm3/1000 strokes		anal tanual am	
Check tolerance	: <del></del>	rack travel mm	: 4.00
cm3/1000s.	: + 7.0 I		
Spreed	1	LOW IDLE	
Tolerance	+		
cm3/1000 strokes	: 8.0 +	. , ,	
Check tolerance	12.2	control lever	
cm3/100Cs.	: 12.0	position degree tolerance degree	
	I	toter ance degree	4.0
(B) SETTING OF IN	JECTION PUMP	Testing:	
WITH GOVERNOR	+		
	+	Rated speed rpm	
	+	rack travel mm	
GUIDE SLEEVE POSI	TION	Tolerance mm	: ← 0.10
GOIDE SEESE LOST	1	Rated speed rpm	: 100
Rated speed rpm	: 1175	Tarea speca i piir	, , , , ,
	1	CRT mms min.	: > 6.20
		Otto ina activity	
Rack travel in mm			
Rack travel in mm Tolerance mm	: 11.00 : + 1.30	Rated speed rpm	
Tolerance mm			
FULL LOAD DELIVER	+ 1.30 Y AT FULL LOAD STOP	Rated speed rpm TORQUE CONTROL	: 400
FULL LOAD DELIVER Rated speed rpm	: +- 1.30	Rated speed rpm TORQUE CONTROL Rated speed rpm	: 400 : 950
FULL LOAD DELIVER Rated speed rpm Aneroid pressure	: +- 1.30 Y AT FULL LOAD STOP : 950	Rated speed rpm TORQUE CONTROL Rated speed rpm rack travel mm	: 400 : 950 : 12.15
FULL LOAD DELIVER Rated speed rpm Aneroid pressure hPa	: + 1.30 Y AT FULL LOAD STOP	Rated speed rpm TORQUE CONTROL Rated speed rpm	: 400 : 950
FULL LOAD DELIVER Rated speed rpm Aneroid pressure hPa Del. quantity	: + 1.30 Y AT FULL LOAD STOP : 950 : 1000	Rated speed rpm TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 400 : 950 : 12.15 : + 0.05
FULL LOAD DELIVER  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance	: +- 1.30 Y AT FULL LOAD STOP : 950 : 1000 : 269.0	Rated speed rpm TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm	: 400 : 950 : 12.15 : + 0.05 : 700 : 12.15
FULL LOAD DELIVER  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: +- 1.30 Y AT FULL LOAD STOP : 950 : 1000 : 269.0	Rated speed rpm TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 400 : 950 : 12.15 : + 0.05 : 700 : 12.15
FULL LOAD DELIVER  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: + 1.30 Y AT FULL LOAD STOP : 950 : 1000 : 269.0 : + 1.0	Rated speed rpm  TORQUE CONTROL  Rated speed rpm rack travel mm  Tolerance mm  Rated speed rpm rack travel mm Tolerance mm	: 400 : 950 : 12.15 : + 0.05 : 700 : 12.15 : + 0.10
FULL LOAD DELIVER  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: +- 1.30 Y AT FULL LOAD STOP : 950 : 1000 : 269.0	Rated speed rpm  TORQUE CONTROL  Rated speed rpm rack travel mm Tolerance mm  Rated speed rpm rack travel mm Tolerance mm  Rated speed rpm	: 400 : 950 : 12.15 : + 0.05 : 700 : 12.15 : + 0.10
FULL LOAD DELIVER  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed	: + 1.30 Y AT FULL LOAD STOP : 950 : 1000 : 269.0 : + 1.0	Rated speed rpm  TORQUE CONTROL  Rated speed rpm rack travel mm Tolerance mm  Rated speed rpm rack travel mm Tolerance mm  Rated speed rpm rack travel mm	: 400 : 950 : 12.15 : + 0.05 : 700 : 12.15 : + 0.10 : 550 : 12.15
FULL LOAD DELIVER  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance	: + 1.30  Y AT FULL LOAD STOP  : 950  : 1000  : 269.0  : + 1.0  : + 4.0	Rated speed rpm  TORQUE CONTROL  Rated speed rpm rack travel mm Tolerance mm  Rated speed rpm rack travel mm Tolerance mm  Rated speed rpm	: 400 : 950 : 12.15 : + 0.05 : 700 : 12.15 : + 0.10
FULL LOAD DELIVER  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed	: + 1.30  Y AT FULL LOAD STOP  : 950  : 1000  : 269.0  : + 1.0  : + 4.0	Rated speed rpm  TORQUE CONTROL  Rated speed rpm rack travel mm Tolerance mm  Rated speed rpm rack travel mm Tolerance mm  Rated speed rpm rack travel mm	: 400 : 950 : 12.15 : + 0.05 : 700 : 12.15 : + 0.10 : 550 : 12.15 : + 0.10
FULL LOAD DELIVER  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000s trokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes	: + 1.30  Y AT FULL LOAD STOP  : 950  : 1000  : 269.0  : + 1.0  : + 4.0	Rated speed rpm TORQUE CONTROL  Rated speed rpm rack travel mm Tolerance mm	: 400 : 950 : 12.15 : + 0.05 : 700 : 12.15 : + 0.10 : 550 : 12.15 : + 0.10 : 350 : 11.60
FULL LOAD DELIVER  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance	: + 1.30  Y AT FULL LOAD STOP  : 950  : 1000  : 269.0  : + 1.0  : + 4.0	Rated speed rpm TORQUE CONTROL  Rated speed rpm rack travel mm Tolerance mm	: 400 : 950 : 12.15 : + 0.05 : 700 : 12.15 : + 0.10 : 550 : 12.15 : + 0.10 : 350 : 11.60
FULL LOAD DELIVER  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000strokes Check tolerance cm3/1000strokes Check tolerance cm3/1000s.	: + 1.30  Y AT FULL LOAD STOP  : 950  : 1000  : 269.0  : + 1.0  : + 4.0	Rated speed rpm TORQUE CONTROL  Rated speed rpm rack travel mm Tolerance mm	: 400 : 950 : 12.15 : + 0.05 : 700 : 12.15 : + 0.10 : 550 : 12.15 : + 0.10 : 350 : 11.60
FULL LOAD DELIVER  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance	: + 1.30  Y AT FULL LOAD STOP  : 950  : 1000  : 269.0  : + 1.0  : + 4.0	Rated speed rpm TORQUE CONTROL  Rated speed rpm rack travel mm Tolerance mm	: 400 : 950 : 12.15 : + 0.05 : 700 : 12.15 : + 0.10 : 550 : 12.15 : + 0.10 : 350 : 11.60
FULL LOAD DELIVER  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000strokes Check tolerance cm3/1000strokes Check tolerance cm3/1000s.	: + 1.30  Y AT FULL LOAD STOP  : 950  : 1000  : 269.0  : + 1.0  : + 4.0	Rated speed rpm TORQUE CONTROL  Rated speed rpm rack travel mm Tolerance mm	: 400 : 950 : 12.15 : + 0.05 : 700 : 12.15 : + 0.10 : 550 : 12.15 : + 0.10 : 350 : 11.60
FULL LOAD DELIVER  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000strokes Check tolerance cm3/1000strokes Check tolerance cm3/1000s.	: + 1.30  Y AT FULL LOAD STOP  : 950  : 1000  : 269.0  : + 1.0  : + 4.0	Rated speed rpm TORQUE CONTROL  Rated speed rpm rack travel mm Tolerance mm	: 400 : 950 : 12.15 : + 0.05 : 700 : 12.15 : + 0.10 : 550 : 12.15 : + 0.10 : 350 : 11.60
FULL LOAD DELIVER  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000s Check tolerance cm3/1000s.  RATED SPEED  control Lever position degree	: + 1.30  Y AT FULL LOAD STOP  : 950  : 1000  : 269.0  : + 1.0  : + 4.0  : 5.0  : 8.0	Rated speed rpm TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm ANEROID/ALTITUDE COMPENSATOR TEST	: 400 : 950 : 12.15 : + 0.05 : 700 : 12.15 : + 0.10 : 550 : 12.15 : + 0.10 : 350 : 11.60
FULL LOAD DELIVER  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. RATED SPEED	: + 1.30  Y AT FULL LOAD STOP  : 950  : 1000  : 269.0  : + 1.0  : + 4.0  : 5.0  : 8.0	Rated speed rpm TORQUE CONTROL  Rated speed rpm rack travel mm Tolerance mm	: 400 : 950 : 12.15 : + 0.05 : 700 : 12.15 : + 0.10 : 550 : 12.15 : + 0.10 : 350 : 11.60
FULL LOAD DELIVER  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000s Check tolerance cm3/1000s.  RATED SPEED  control Lever position degree	: + 1.30  Y AT FULL LOAD STOP  : 950  : 1000  : 269.0  : + 1.0  : + 4.0  : 5.0  : 8.0	Rated speed rpm TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm ANEROID/ALTITUDE COMPENSATOR TEST	: 400  : 950 : 12.15 : + 0.05 : 700 : 12.15 : + 0.10 : 550 : 12.15 : + 0.10 : 350 : 11.60 : + 0.15

Pressure hPa rack travel mm Tolerance mm	: 1000 : 12.15 : + 0.05	BREAKAWAY	
MEASUREMENT  Pressure hPa Rated speed rpm rack travel mm	: 8.80	Rack travel in m Rated speed rpm Tolerance 1/min	: 995
Tolerance mm Rated speed rpm		STARTING FUEL DE	LIVERY
Pressure hPa rack travel mm Tolerance mm  Pressure hPa rack travel mm Tolerance mm	: 480 : 11.45 : ← 0.10 : 300 : 9.85 : ← 0.05	Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 150.0 : ← 20.0
START CUT-OUT			
Rated speed rpm Check speed 1/min		LOW IDLE  Del. quantity  cm3/1000 strokes	: 29.0
FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes	: 1000 : 700	Tolerance cm3/1000 strokes check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes cm3/1000 strokes	: + 3.0 : + 7.0
Tolerance cm3/1000 strokes Check tolerance cm3/1000s.		cm3/1000s.	: 12.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 1000 : 550 : 279.0 : ← 2.0 : ← 5.0 : ← 5.0 :	End of test spec	ification sheet

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 24.08.95 Edition Test oil : ISO 4113

Combination No. : 0 402 648 602

Injection pump

Pump designation : PE8P110A320RS7398 EP type number : 0 412 618 800

Governor

Governer design. : RQV300...900PA1252K

Governer no. : 0 421 815 484

Cust. part No. :

Customer-spec. information Customer : TATRA

Motor : T3B-928.60

Power KW : 255.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C 40 Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5 Tolerance bar : +- 0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 bar : +- 1.5 Tolerance bar

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x iength mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

BEGINNING OF DELIVERY

26.0 Test pressure bar : Tolerance bar : + 1.0

Prestroke mm 5.05 : +- 0.05 Tolerance mm

test only : +- 0.10

Rack travel in mm : 13.00 Tolerance mm :  $\leftarrow$  1.00

Firing order : 1-8-5-4-7

: - 2- 3- 6

Phasing : 0-45-90-135-180

: -225-270-315

Tolerance : + 0.30

Check

tolerance "NW : +- 0.50

Start of delivery mark

Barrel no. 1

BASIC SETTING

Rated speed rpm : 900

Rack travel in mm : 14.00 : +- 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 191.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance cm3/1000s. : +- 4.0

		+ Tolerance mm	: +- 1.30
Spreed		+	
Tolerance		+	
cm3/1000 strokes	: 5.0	+ FULL LOAD DELIVER	RY AT FULL LOAD STOP
		+	
Check tolerance		+ Rated speed rpm	: 900
cm3/1000s.	: 9.0	+ Aneroid pressure	
		+ hPa	: -
Rated speed rpm		+ Del. quantity	
Tolerance mm	: <b>←</b> 0.30	+ cm3/1000 strokes	: 191.0
Del. quantity		+ Tolerance	
cm3/1000 strokes	: 17.0	+ cm3/1000 strokes	: +- 1.0
Tolerance		+ Check tolerance	
cm3/1000 strokes	: +- 3.0	+ cm3/1000s.	: +- 4.0
Check tolerance		Spreed	
cm3/1000s.	: ← 6.0	† Tolerance	
Spreed		+ cm3/1000 strokes	: 5.0
Tolerance		+ Check tolerance	
cm3/1000 strokes	: 8.0	+ cm3/1000s.	: 9.0
Check tolerance		+	
cm3/1000s.	: 12.0		
		+ RATED SPEED	
		+	
(B) SETTING OF IN	JECTION PUMP	+	
WITH GOVERNOR		+ control lever	(4.5
		+ position degree	
CHARLE OF EDITE TOAL	<b>68-1</b>	tolerance degree	: + 4.0
GUIDE SLEEVE TRAV	EL	1	
Data damand man	. 700	+ control lever	. 115 0
Rated speed rpm	: 300	position degree	
guide sleeve	. 4.7	tolerance degree	: ← 4.0
travel mm	: 1.63	T	. 47.00
Tolerance mm	: ← 0.20	+ rack travel mm	
Dubad anald ann	. 059	Rated speed rpm	
Rated speed rpm	: 958	† Tolerance 1/min	: +- 5
guide sleeve	: 8.79	T most traval an	: 4.00
travel mm	: + 0.15	+ rack travel mm + Rated speed rpm	
Tolerance mm	: - 0.15	+ Tolerance 1/min	
Poted speed non	• 777	† Toterance Daim	: +- 15
Rated speed rpm	: 777	rack travel mm	: 0.50
guide sleeve travel mm	: 6.70	Tolerance mm	: +- 0.50
Tolerance mm	: +- 0.25	Rated speed rpm	
יטנכי מוונכ ווווו	دع. و	T Kared Speed (bill	. 1100
Rated speed rpm	: 520		
guide sleeve	. 500	+ LOW IDLE	
travel mm	: 3.73	1	
Tolerance mm	: +- 0.25	1	
I WENT OF THE STATE		- control lever	
Rated speed rpm	: 1260	position degree	: 72.0
guide sleeve	, to war	tolerance degree	
travel mm	: 13.50	100000000000000000000000000000000000000	
Tolerance mm		control lever	
. C.C. GIFO TRI		position degree	: 18.0
		tolerance degree	
GUIDE SLEEVE POSIT	TION	+	,,,,,
	• • • • •	+ Testing:	
Rated speed rpm	: 1115	1	
CONTRACT OF SERVICE CONTRACTOR	· · · · · · · · · · · · · · · · · · ·	Rated speed rpm	: 250
Rack travel in mm	: 13.00	+ Tolerance mm	
		•	-

		,
Rated speed rpm	: 150	Aneroid pressure
CRT mm min.	: > 6.47	+ hPa : - Rated speed rpm : 600 Del. quantity
Rated speed rpm	: 350	cm3/1000 strokes : 198.0 Tolerance
TORQUE CONTROL		- cm3/1000 strokes : +- 2.0 Check tolerance
TONGOL CONTINCE		cm3/1000s. : + 5.0
Rated speed rpm		+
rack travel mm		+ Aneroid pressure
Tolerance mm	: +~ 0.05	thPa : -
Dated cased non	: 600	Rated speed rpm : 500
Rated speed rpm rack travel mm		+ Del. quantity + cm3/1000 strokes : 129.0
Tolerance mm		Tolerance
TOCCT GITCC TIME		+ cm3/1000 strokes : + 2.0
Rated speed rpm	: 300	+ Check tolerance
rack travel mm		+  cm3/1000s. : + 4.0
Tolerance mm		+
		- † BREAKAWAY
ANEROID/ALTITUDE		†
COMPENSATOR TEST		+ Rack travel in mm : 13.00
		+ Rated speed rpm : 945
SETTING		Tolerance 1/min : +- 5
DE ( ) THO		T Total ance 17 min
Rated speed rpm	: 900	1
Pressure hPa	: 1500	
rack travel mm	: 14.00	+ STARTING FUEL DELIVERY
Tolerance mm	: +- 0.05	+
		+ Rated speed rpm : 100
MEASUREMENT		track travel mm : 20.50
m		Tolerance mm : + 0.50
Pressure hPa	900	+ Del. quantity + cm3/1000 strokes : 255.0
Rated speed rpm rack travel mm		Tolerance 255.0
Tolerance mm	: +- 0.20	- cm3/1000 strokes : + 20.0
roter arree man	0.25	Check tolerance
Rated speed rpm	: 900	+ cm3/1000s. : + 24.0
recorded and an expensive factors		+
Pressure hPa	: 375	+
rack travel mm	: 10.25	+
Tolerance mm	: + 0.15	
D 6D-	. 750	+ LOW IDLE
Pressure hPa	: 750 : 12.75	Rated speed rpm : 250
rack travel mm Tolerance mm	: + 0.05	Rated speed rpm : 250 Tolerance mm : + 0.30
ioterance min	. + 0.05	Del. quantity
		- + cm3/1000 strokes : 17.0
START CUT-OUT		Tolerance
		+ cm3/1000 strokes : +- 3.0
Rated speed rpm	: < 170	Check tolerance
Check		+ cm3/1000s. : +- 6.0
speed 1/min	: < 190	Spreed
		† Tolerance
FIFE DEL TUENU ALLA	DACTEDICTICS	- + cm3/1000 strokes : 8.0
FUEL DELIVERY CHA	WHC LEWTO LTC2	T

cm3/1000s.	:	12.0	

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 24.08.95 Edition Test oil : ISO 4113

Combination No. : 0 402 648 602A

Injection pump

Pump designation : PE8P110A320RS7398 EP type number : 0 412 618 800

Governor

Governer design. : RQV300...900PA1252K

Governer no. : 0 421 815 484

Cust. part No. :

Customer-spec. information : TATRA Customer

: T3B-928.50 Motor Power KW : 230.0

#### TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C 40 Tolerance °C 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 bar Tolerance bar : +- 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0 : 600 x length mm

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm 5.05 Tolerance mm : +- 0.05

test only : + 0.10

Rack travel in mm: 13.00 Tolerance mm : +- 1.00

Firing order : 1-8-5-4-7 : - 2- 3- 6

Phasing : 0-45-90-135-180 : -225-270-315

: + 0.30 Tolerance

Check

tolerance "NW : +- 0.50

Start of delivery mark

1 Barrel no.

## BASIC SETTING

Rated speed rpm 900

Rack travel in mm : 13.30 Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes : 175.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance cm3/1000s. : +- 4.0

		+ Tolerance mm	: + 1.30
Spreed		+	
Tolerance		+	
cm3/1000 strokes	: 5.0	+ FULL LOAD DELIVER	RY AT FULL LOAD STOP
Check tolerance		t Coted around name	: 900
cm3/1000s.	: 9.0	+ Rated speed rpm + Aneroid pressure	: 900
CIRDA TOCKOS.	. /.0	+ hPa	•
Rated speed rpm	: 250	Del. quantity	•
Tolerance mm		+ cm3/1000 strokes	: 175.0
Del. quantity		+ Tolerance	
cm3/1000 strokes	: 17.0	+ cm3/1000 strokes	: + 1.0
Tolerance		+ Check tolerance	
cm3/1000 strokes	: +- 3.0	- cm3/1000s.	: +- 4.0
Check tolerance	4.5	Spreed	
cm3/1000s.	: +- 6.0	+ Tolerance	
Spreed		+ cm3/1000 strokes	: 5.0
Tolerance	. 9.0	+ Check tolerance	
cm3/1000 strokes	: 8.0	+ cm3/1000s.	: 9.0
Check tolerance cm3/1000s.	: 12.0	Ť	
CIID/ (OUUS.	: 12.0	T RATED SPEED	
		T RAILD SPEED	
(B) SETTING OF IN	LIECTION PLIMP	I	
WITH GOVERNOR	occitor form	control lever	
7211 301611		+ position degree	: 61.0
		+ tolerance degree	
GUIDE SLEEVE TRAV	EL	+	
		+ control lever	
Rated speed rpm	: 300	+ position degree	
guide sleeve		+ tolerance degree	: +- 4.0
travel mm	: 1.63	+	
Tolerance mm	: +- 0.20	+ rack travel mm	
Bukasi saasaal saas	. 057	+ Rated speed rpm	
Rated speed rpm	: 957	+ Tolerance 1/min	: +- 5
guide sleeve travel mm	: 8.79	† rack travel mm	: 4.00
Tolerance mm	: + 0.15	+ Rated speed rpm	
roterance min	0.15	+ Tolerance 1/min	
Rated speed rpm	: 776	I rocerance mini	, , ,
guide sleeve		+ rack travel mm	: 0.50
travel mm	: 6.70	+ Tolerance mm	: +- 0.50
Tolerance mm	: +- 0.25	Rated speed rpm	
		+	
Rated speed rpm	<b>:</b> 520	+	
guide sleeve		+ LOW IDLE	
travel mm	: 3.73	+	
Tolerance mm	: <del>+</del> 0.25	+	
	40.40	+ control lever	70.0
Rated speed rpm	: 1260	+ position degree	
guide steeve	. 17 50	tolerance degree	: +- 4.0
travel mm	: 13.50	1	
Tolerance mm	: +- 0.50	+ control lever	. 19 //
		<pre>position degree tolerance degree</pre>	
GUIDE SLEEVE POSI	TTON	T toterance degree	4.0
COINT OFFERE LOST	1 2019	Testing:	
Rated speed rpm	: 1120	1	
Hatta apica i pili	T Super	+ Rated speed rpm	: 250
Rack travel in mm	: 12.30	+ Tolerance mm	
The service of the se		1	

		•		
Rated speed rpm	: 150	‡	Aneroid pressure	
CRT mm min.	: > 6.50	‡	hPa Rated speed rpm	600
Rated speed rpm	: 360	‡	Del. quantity cm3/1000 strokes	: 182.0
			Tolerance cm3/1000 strokes	: +- 2.0
TORQUE CONTROL		‡	Check tolerance cm3/1000s.	: +- 5.0
Rated speed rpm rack travel mm	: 900 : 13.30	‡	Aneroid pressure	
Tolerance mm	: ← 0.05	‡	hPa Rated speed rpm	: 500
Rated speed rpm rack travel mm			Del. quantity cm3/1000 strokes	
Tolerance mm	: +- 0.10	+	Tolerance cm3/1000 strokes	
Rated speed rpm	: 300	Ŧ	Check tolerance	
rack travel mm Tolerance mm	: 11.50 : + 0.20	‡	cm3/1000s.	: + 4.0
			BREAKAWAY	
ANEROID/ALTITUDE COMPENSATOR TEST		‡		
SETTING		†	Rack travel in mm Rated speed rpm Tolerance 1/min	: 945
Rated speed rpm	: 900	1		
Pressure hPa	: 1500	+	OTANTAIN FIRE 3FE	7.15DV
rack travel mm Tolerance mm	: 13.30 : + 0.05	Ŧ	STARTING FUEL DEL	
MEASUREMENT		+	Rated speed rpm rack travel mm Tolerance mm	: 100 : 20.50 : +- 0.50
Pressure hPa		Ţ	Del. quantity	7.1.2
Rated speed rpm rack travel mm	: 8.90	‡	cm3/1000 strokes Tolerance	
Tolerance mm	: + 0.20	‡	cm3/1000 strokes Check tolerance	: + 20.0
Rated speed rpm	: 900	‡	cm3/1000S.	: +- 24.0
Pressure hPa rack travel mm	: 425 : 10.00	1		
Tolerance mm	: ← 0.15	Ŧ	LOUI TOUR	
Pressure hPa	: 750	+	LOW IDLE	0.50
rack travel mm Tolerance mm	: 12.25 : ← 0.05	‡	Rated speed rpm Tolerance mm	: 250 : ← 0.30
		+	Del. quantity cm3/1000 strokes	: 17.0
START CUT-OUT		<u>†</u>	Tolerance cm3/1000 strokes	
Rated speed rpm	: < 220	Ŧ	Check tolerance cm3/1000s.	: +~ 6.0
Check speed 1/min	: < 240	Ŧ	Spreed Tolerance	. +- 0.0
		<del> </del>	cm3/1000 strokes	: 8.0
FUEL DELIVERY CHA	RACIERISTICS	+		

Check tolerance cm3/1000s.	:	12.0	
			<del></del> -

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 21.09.95 Test oil : ISO 4113

Combination No. : 0 402 648 796

Injection pump

Pump designation : PE8P120A320LS7875 EP type number : 0 412 628 881

Governor

Governer design. : RQV250...1150PA1240

Governer no. : 0 421 814 160

Cust. part No. :

Customer-spec. information

Customer : DAEWOO Motor : V2-8TC Power KW : 265.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp.  $^{\circ}$ C :  Overflow valve : 1 417 413 025

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity

min. L/h : 90 Tolerance L/h : + 10.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 5.20
Tolerance mm : +- 0.05

test only :  $\leftarrow$  0.10

Rack travel in mm : 16.00 Tolerance mm : +- 1.50

Firing order : 8-7-2-6-3 :-5-4-1

Phasing : 0-45-90-135-180

: -225-270-315

Tolerance : +-0.30

Check

tolerance \*NW : + 0.50

Start of delivery mark

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm: 12.70

Tolerance mm :  $\leftarrow$  0.05

Del. quantity

cm3/1000 strokes : 200.0

- ·		1
Tolerance	. 4.2	
cm3/1000 strokes	: +- 7.0	+ Rated speed rpm : 530
		_ + guide sleeve
Check tolerance		+ travel mm : 3.62
cm3/1000s.	: +- 4.0	+ Tolerance mm : +- 0.25
		+
Spreed		Rated speed rpm : 1307
Tolerance		+ guide sleeve
cm3/1000 strokes	: 7.0	travel mm : 10.00
cmo. 1000 oc. okeo		+ Tolerance mm : + 0.25
Check tolerance		- 1
cm3/1000s.	: 10.0	Rated speed rpm : 1400
CHD7 10003.	. 10.0	guide sleeve
Dottod around man	. 250	
Rated speed rpm	: 250	+ travel mm : 11.50
~	F F0	+ Tolerance mm : + 0.50
Rack travel in m		†
Tolerance mm	: + 0.30	
Del. quantity		+ GUIDE SLEEVE POSITION
cm3/1000 strokes	: 20.0	+
Tolerance		+ Rated speed rpm : 1265
cm3/1000 strokes	: +- 3.0	+
Check tolerance		+ Rack travel in mm : 12.40
cm3/1000s.	: +- 6.0	+ Tolerance mm : + 1.30
Spreed		
Tolerance		
cm3/10G0 strokes	: 5.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance		T TOLL LOAD DELIVERY AT TOLL LOAD STOT
cm3/1000s.	A A	Rated speed rpm : 1150
CHD/ 10005.	: 8.0	
		† Aneroid pressure
(2)		+ hPa : -
(B) SETTING OF IN	JECTION PUMP	† hPa : - † Del. quantity
(B) SETTING OF IN	JECTION PUMP	hPa : - Del. quantity cm3/1000 strokes : 200.0
	JECTION PUMP	hPa : - Del. quantity cm3/1000 strokes : 200.0 Tolerance
WITH GOVERNOR		+ hPa : - + Del. quantity + cm3/1000 strokes : 200.0 + Tolerance + cm3/1000 strokes : +- 1.0
		hPa : - Del. quantity cm3/1000 strokes : 200.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance
WITH GOVERNOR		+ hPa : - + Del. quantity + cm3/1000 strokes : 200.0 + Tolerance + cm3/1000 strokes : +- 1.0
WITH GOVERNOR  GUIDE SLEEVE TRAV	/EL	hPa : - Del. quantity cm3/1000 strokes : 200.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance
GUIDE SLEEVE TRAV	/EL : 250	hPa : - Del. quantity cm3/1000 strokes : 200.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed
GUIDE SLEEVE TRAV Rated speed rpm guide sleeve	/EL : 250	hPa : - Del. quantity cm3/1000 strokes : 200.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance
GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm	'EL : 250 : 1.54	hPa : - Del. quantity cm3/1000 strokes : 200.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 7.0
GUIDE SLEEVE TRAV Rated speed rpm guide sleeve	/EL : 250	hPa : - Del. quantity cm3/1000 strokes : 200.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 7.0 Check tolerance
WITH GOVERNOR  GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm	EL : 250 : 1.54 : + 0.20	hPa : - Del. quantity cm3/1000 strokes : 200.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 7.0
WITH GOVERNOR  GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm	EL : 250 : 1.54 : + 0.20	hPa : - Del. quantity cm3/1000 strokes : 200.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 7.0 Check tolerance
WITH GOVERNOR  GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve	EL  : 250  : 1.54  : + 0.20  : 1206	hPa : - Del. quantity cm3/1000 strokes : 200.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 7.0 Check tolerance cm3/1000 strokes : 7.0
WITH GOVERNOR  GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm  Tolerance mm  Rated speed rpm guide sleeve travel mm	EL  : 250  : 1.54  : + 0.20  : 1206  : 8.12	hPa : - Del. quantity cm3/1000 strokes : 200.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 7.0 Check tolerance
WITH GOVERNOR  GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve	EL  : 250  : 1.54  : + 0.20  : 1206	hPa : - Del. quantity cm3/1000 strokes : 200.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 7.0 Check tolerance cm3/1000 strokes : 7.0
Rated speed rpm guide sleeve travel mm Tolerance mm guide sleeve travel mm Tolerance mm Tolerance mm Tolerance mm	EL  : 250  : 1.54 : ← 0.20  : 1206 : 8.12 : ← 0.15	hPa : - Del. quantity cm3/1000 strokes : 200.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 7.0 Check tolerance cm3/1000s. : 10.0  RATED SPEED
WITH GOVERNOR  GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm Rated speed rpm	EL  : 250  : 1.54  : + 0.20  : 1206  : 8.12	hPa : - Del. quantity cm3/1000 strokes : 200.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 7.0 Check tolerance cm3/1000s. : 10.0  RATED SPEED
GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	EL  : 250  : 1.54  : + 0.20  : 1206  : 8.12 : + 0.15  : 930	hPa : - Del. quantity cm3/1000 strokes : 200.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 7.0 Check tolerance cm3/1000s. : 10.0  RATED SPEED  control lever position degree : 55.0
GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	EL  : 250  : 1.54  : + 0.20  : 1206  : 8.12 : + 0.15  : 930  : 5.50	hPa : - Del. quantity cm3/1000 strokes : 200.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 7.0 Check tolerance cm3/1000s. : 10.0  RATED SPEED
GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	EL  : 250  : 1.54  : + 0.20  : 1206  : 8.12 : + 0.15  : 930	hPa Del. quantity cm3/1000 strokes : 200.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 7.0 Check tolerance cm3/1000s. : 10.0  RATED SPEED  control lever position degree : 55.0 tolerance degree : +- 4.0
GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	EL  : 250  : 1.54  : + 0.20  : 1206  : 8.12 : + 0.15  : 930  : 5.50 : + 0.25	hPa Del. quantity cm3/1000 strokes : 200.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 7.0 Check tolerance cm3/1000s. : 10.0  RATED SPEED  control lever position degree : 55.0 tolerance degree : +- 4.0  control lever
GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	EL  : 250  : 1.54  : + 0.20  : 1206  : 8.12 : + 0.15  : 930  : 5.50	hPa Del. quantity cm3/1000 strokes : 200.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 7.0 Check tolerance cm3/1000s. : 10.0  RATED SPEED  control lever position degree : 55.0 tolerance degree : +- 4.0  control lever position degree : 119.0
GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	EL  : 250  : 1.54 : + 0.20 : 1206 : 8.12 : + 0.15 : 930 : 5.50 : + 0.25 : 317	hPa Del. quantity cm3/1000 strokes : 200.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 7.0 Check tolerance cm3/1000s. : 10.0  RATED SPEED  control lever position degree : 55.0 tolerance degree : +- 4.0  control lever
GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	EL  : 250  : 1.54  : + 0.20  : 1206  : 8.12 : + 0.15  : 930  : 5.50 : + 0.25	hPa Del. quantity cm3/1000 strokes : 200.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 7.0 Check tolerance cm3/1000s. : 10.0  RATED SPEED  control lever position degree : 55.0 tolerance degree : +- 4.0  control lever position degree : 119.0
GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	EL  : 250  : 1.54 : + 0.20 : 1206 : 8.12 : + 0.15 : 930 : 5.50 : + 0.25 : 317	hPa Del. quantity cm3/1000 strokes : 200.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 7.0 Check tolerance cm3/1000s. : 10.0  RATED SPEED  control lever position degree : 55.0 tolerance degree : +- 4.0  control lever position degree : 119.0
GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	EL  : 250  : 1.54 : + 0.20 : 1206  : 8.12 : + 0.15 : 930 : 5.50 : + 0.25 : 317 : 2.69	hPa Del. quantity cm3/1000 strokes : 200.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 7.0 Check tolerance cm3/1000s. : 10.0  RATED SPEED  control lever position degree : 55.0 tolerance degree : +- 4.0  control lever position degree : 119.0 tolerance degree : +- 4.0  rack travel mm : 11.70
GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Tolerance mm	EL  : 250  : 1.54 : + 0.20 : 1206 : 8.12 : + 0.15 : 930 : 5.50 : + 0.25 : 317 : 2.69 : + 0.25	hPa Del. quantity cm3/1000 strokes : 200.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 7.0 Check tolerance cm3/1000s. : 10.0  RATED SPEED  control lever position degree : 55.0 tolerance degree : +- 4.0  control lever position degree : 119.0 tolerance degree : +- 4.0  rack travel mm : 11.70 Rated speed rpm : 1195
GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm	EL  : 250  : 1.54 : + 0.20 : 1206  : 8.12 : + 0.15 : 930 : 5.50 : + 0.25 : 317 : 2.69	hPa Del. quantity cm3/1000 strokes : 200.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 7.0 Check tolerance cm3/1000s. : 10.0  RATED SPEED  control lever position degree : 55.0 tolerance degree : +- 4.0  control lever position degree : 119.0 tolerance degree : +- 4.0  rack travel mm : 11.70 Rated speed rpm : 1195
GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve	EL  : 250  : 1.54 : + 0.20 : 1206 : 8.12 : + 0.15 : 930 : 5.50 : + 0.25 : 317 : 2.69 : + 0.25 : 367	hPa Del. quantity cm3/1000 strokes : 200.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 7.0 Check tolerance cm3/1000s. : 10.0  RATED SPEED  control lever position degree : 55.0 tolerance degree : +- 4.0  control lever position degree : 119.0 tolerance degree : +- 4.0  rack travel mm : 11.70 Rated speed rpm : 1195 Tolerance 1/min : +- 5
GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm	EL  : 250  : 1.54 : + 0.20 : 1206 : 8.12 : + 0.15 : 930 : 5.50 : + 0.25 : 317 : 2.69 : + 0.25	hPa Del. quantity cm3/1000 strokes : 200.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 7.0 Check tolerance cm3/1000s. : 10.0  RATED SPEED  control lever position degree : 55.0 tolerance degree : +- 4.0  control lever position degree : 119.0 tolerance degree : +- 4.0  rack travel mm : 11.70 Rated speed rpm : 1195

Tolerance 1/min	: +- 15	Rated speed rpm : 500
monte descriptions	: 0.50	Tonnerson kon a 745
rack travel mm		Pressure hPa : 315
Tolerance mm		† rack travel mm : 9.50
Rated speed rpm	: 1350	$\downarrow$ Tolerance mm : $\leftarrow$ 0.20
		1
LOW IDLE		rack travel mm : 11.70
FOM INFE		
		+ Tolerance mm : $+$ 0.05
		+
control lever		
position degree	· 85.0	+ START CUT-OUT
tolerance degree		1
toter ance degree	7.0	Total aread are 100
		+ Rated speed rpm : < 190
control lever		+ Check
position degree	: 21.0	+ speed 1/min : < 210
tolerance degree	: ← 4.0	<b>∔</b>
Testing:		+ FUEL DELIVERY CHARACTERISTICS
		+
Rated speed rpm	: 250	+ Aneroid pressure
rack travel mm	5.50	+ hPa : -
Tolerance mm	: ← 0.10	Rated speed rpm : 650
totel after tight	0.10	
		+ Del. quantity
Rated speed rpm	: 150	+ cm3/1000 strokes : 218.0
		† Tolerance
CRT mm min.	: > 8.50	+ cm3/1000 strokes : $+$ 3.0
		- Check tolerance
Data dama ada was	: 300	cm3/1000s. : +- 6.0
Rated speed rpm	: 300	† cm5/1000s. : +- 0.0
		†
	······································	
TORQUE CONTROL		+ hPa : -
		Rated speed rpm : 500
Rated speed rpm	: 1150	+ Del. quantity
nack travel m		+ cm3/1000 strokes : 135.0
rack travel mm Tolerance mm	12.10	
Tolerance mm	: <b>←</b> 0.05	+ Tolerance
		+ cm3/1000 strokes : +- 1.0
Rated speed rpm	: 650	+ Check tolerance
rack travel mm		+ cm3/1000s. : +- 4.0
	: +- 0.05	(113) 100001
Tolerance mm	. +- 0.05	Ţ
		BREAKAWAY
ANEROID/ALTITUDE		+
COMPENSATOR TEST		+
		Rack travel in mm: 11.70
		+ Rated speed rpm : 1195
CETTILIC		
SETTING		+ Tolerance 1/min : +- 5
		†
Rated speed rpm	: 500	+
Pressure hPa	: 1500	
rack travel mm	: 12.70	→ STARTING FUEL DELIVERY
	· + 0.05	DYAKTING TOLL DELLYEKT
Tolerance mm	: 0.05	T Post of an and many 100
		+ Rated speed rpm : 100
MEASUREMENT		† Del. quantity
		+ cm3/1000 strokes : 205.0
Pressure hPa	• -	+ Tolerance
	· · 500	cm3/1000 strokes : + 10.0
Rated speed rpm		
rack travel mm	: 8.40	+ Check tolerance
Tolerance mm	: <del></del> 0.20	+ cm3/1000s. : +- 14.0
		ł

# LOW IDLE

Rated speed rpm rack travel mm Tolerance mm	: +	250 5.50 0.30	
Del. quantity cm3/1090 strokes	:	20.0	
Tolerance cm3/1000 strokes	: +-	3.0	
Check tolerance cm3/1000s.	: +-	6.0	
Spreed Tolerance			
cm3/1000 strokes Check tolerance	:	5.0	
cm3/1000s.	:	8.0	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 22.09.95 Test oil : ISO 4113

Combination 80. : 0 402 746 951

Injection pump

Pump designation : PES6P120A720RS7292

: -1

EP type number : 0 412 726 939

Governor

Governer design. : RQV350...1150PA1074K

Governer no. : 0 421 815 355

Cust. part No. : 0240747902

Customer-spec. information Customer : MB-NFZ Motor : OM366LA Power KW : 127.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity

min. L/h : 100 Tolerance L/h : +- 10.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.00 Tolerance mm : + 0.05

test only :  $\leftarrow$  0.10

Rack travel in mm : 20.50 Tolerance mm : + 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.30

Check

tolerance °NW : +- 0.75

Start of delivery blocking

\*NW after s.o.d. : 3.30

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 14.20 Tolerance mm : +- 0.05

005

	+ Rated speed rpm : 1480
Del. quantity	guide sleeve
cm3/1000 strokes : 271.0	+ travel mm : 13.50
	+ Tolerance mm : +- 0.50
Tolerance	+
cm3/1000 strokes : +- 1.0	CUIDE CLEENE COCCETAN
Check tolerance	+ GUIDE SLEEVE POSITION
cm3/1000s. : +- 4.0	Rated speed rpm : 1329
410	Nated Speed (pm : 152)
Spreed	+ Rack travel in mm : 13.00
Tolerance	† Tolerance mm : + 1.30
cm3/1000 strokes : 8.0	†
Check tolerance	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000s. : 12.0	T FOLL LOAD DELIVERY AT FULL LOAD STOP
	Rated speed rpm : 1150
Rated speed rpm : 350	+ Aneroid pressure
	+ hPa : 1500
Rack travel in mm: 8.00	+ Del. quantity
Tolerance mm : + 0.30	+ cm3/1000 strokes : 271.0
Del. quantity cm3/1000 strokes : 13.0	+ Tolerance + cm3/1000 strokes : +- 1.0
Tolerance	Check tolerance
cm3/1000 strokes : +- 3.0	+ cm3/1000s. : +- 4.0
Check tolerance	Spreed
cm3/1000s. : +- 6.0	+ Tolerance
Spreed	+ cm3/1000 strokes : 8.0
Tolerance cm3/1000 strokes : 4.0	+ Check tolerance + cm3/1000s. : 12.0
Check tolerance	+ cm3/1000s. : 12.0
cm3/1000s. : 8.0	
	+ RATED SPEED
	+
(B) SETTING OF INJECTION PUMP	
WITH GOVERNOR	+ control lever + position degree : 109.0
	<pre>position degree : 109.0 tolerance degree : +- 4.0</pre>
GUIDE SLEEVE TRAVEL	toterance degree . 4.0
	rack travel mm : 13.20
Rated speed rpm : 350	+ Rated speed rpm : 1195
guide sleeve	† Tolerance 1/min : ← 5
travel mm : 1.53 Tolerance mm : + 0.20	t rack travel mm : 4.00
Tolerance mm : + 0.20	Rated speed rpm : 1300
Rated speed rpm : 1205	+ Tolerance 1/min : + 15
guide sleeve	+
travel mm : 9.35	+ rack travel mm : 0.70
Tolerance mm : + 0.15	+ Tolerance mm : +- 0.70
Detect amond amon	Rated speed rpm : 1400
Rated speed rpm : 855 guide sleeve	I
travel mm : 5.56	LOW IDLE
Tolerance mm : + 0.25	+
	+
Rated speed rpm : 550	+ control lever
guide sleeve	position degree : 65.0
travel mm : 3.17 Tolerance mm : + 0.25	tolerance degree : +- 4.0
Tolerance mm : + 0.25	Testing:
	, , , , , , , , , , , , , , , , , , , ,

Bated amond ann . 350	<u> </u>
Rated speed rpm : 350 rack travel mm : 6.00 Tolerance mm : + 0.10	START CUT-OUT
Rated speed rpm : 250	Rated speed rpm : < 270 Check
, , , ,	+ speed 1/min : < 290
CRT mm min. :> 6.88	<u> </u>
Rated speed rpm : 400	FUEL DELIVERY CHARACTERISTICS
TORQUE CONTROL	Aneroid pressure
TONGE CONTROL	hPa : 1500 Rated speed rpm : 750
Rated speed rpm : 1150	→ Del. quantity
rack travel mm : 14.20 Tolerance mm : + 0.05	cm3/1000 strokes : 262.0
Toterance mm : +- U.U5	† Tolerance + cm3/1000 strokes : +- 2.0
Rated speed row . 950	+ Check tolerance
Rated speed rpm : 950 rack travel mm : 13.80 Tolerance mm : +- 0.10	+ cm3/1000s. : +- 5.0
Tolerance mm : +- 0.10	Spreed
	+ Tolerance
Rated speed rpm : 750	+ cm3/1000 strokes : 8.0
rack travel mm : 13.20 Tolerance mm : + 0.10	Check tolerance
Toterance mm : + 0.10	+ cm3/1000s. : 12.0
Rated speed rpm : 600	+ Aneroid pressure
Rated speed rpm : 600 rack travel mm : 12.80 Tolerance mm : +- 0.10	+ hPa : 1500
Tolerance mm : +- 0.10	Rated speed rpm : 600
	+ Del. quantity + cm3/1000 strokes : 256.0
ANEROID/ALTITUDE	+ Tolerance
COMPENSATOR TEST	+ cm3/1000 strokes : +- 3.0
	+ Check tolerance
	+ cm3/1000s. : $+$ 6.0
SETTING	†
Rated speed rpm : 1150	+ Aneroid pressure + hPa : -
Pressure hPa : 1500	Rated speed rpm : 500
rack travel mm : 14.20	+ Del. quantity
Tolerance mm : + 0.05	+ cm3/1000 strokes : 166.0
	+ Tolerance
MEASUREMENT	+ cm3/1000 strokes : +- 1.0 + Check tolerance
Pressure hPa : -	- cm3/1000s. : +- 4.0
Rated speed rpm : 1150	4.0
rack travel mm : 11.00	
Tolerance mm : + 0.15	BREAKAWAY
Rated speed rpm : 1150	‡
	Rack travel in mm: 13.20
Pressure hPa : 850	Rated speed rpm : 1195
rack travel mm : 13.50	+ Tolerance 1/min : +- 5
Tolerance mm : +- 0.05	Ī
Pressure hPa : 350	
rack travel mm : 11.70 Tolerance mm : + 0.10	+ STARTING FUEL DELIVERY
Tolerance mm : → 0.10	+
	+ Rated speed rpm : 100
	rack travel mm : 13.70

Tolerance mm	; +-	0.20
Del. quantity cm3/1000 strokes	:	158.0
Tolerance		
cm3/1000 strokes Check tolerance		15.0
cm3/1000s.	: +	19.0

# LOW IDLE

Rated speed rpm			350
rack travel mm	:		8.00
Tolerance mm	:	+-	0.30
Del. quantity			
cm3/1000 strokes	:		13.0
Tolerance			
cm3/1000 strokes	:	<del></del>	3.0
Check tolerance			
cm3/1000s.	:	+	6.0
Spreed			
Tolerance			
cm3/1000 strokes	:		4.0
Check tolerance			
cm3/1000s.	:		8.0
	,		,

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 22.09.95 Test oil : ISO 4113

Combination No. : 0 402 746 956

Injection pump

Pump designation : PES6P120A720RS7292

: -1

EP type number : 0 412 726 939

Governor

Governer design. : RQV350...1150PA1074

: -1K

Governer no. : 0 421 815 365

Cust. part No. : 0250740902

Customer—spec. information Customer : MB-NFZ Motor : 0M366LA Power KW : 142.0

#### TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity

min. L/h : 100 Tolerance L/h : + 10.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5

Tolerance bar : +- 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0

x Length ma : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.00 Tolerance mm : + 0.05

test only :  $\leftarrow$  0.10

Rack travel in mm : 20.50 Tolerance mm : +- 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance :  $\div$  0.30

Check

tolerance 'NW : + 0.50

Start of delivery blocking

\*NW after s.o.d. : 3.30

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm: 14.50

009

Tolerance mm	: +- 0.05	1
		Rated speed rpm : 1480
Del. quantity		guide sleeve
cm3/1000 strokes	: 277.0	† travel mm : 13.50
Talauana		+ Tolerance mm : + 0.50
Tolerance cm3/1000 strokes	: +- 1.0	† <u></u>
CM3/TOOU Strakes	: 1.0	T GUIDE SLEEVE POSITION
Check tolerance		30106 022246 103111014
cm3/1000s.	: +- 4.0	Rated speed rpm : 1331
		+
Spreed		+ Rack travel in mm: 13.50
Tolerance	0.0	+ Tolerance mm : + 1.30
cm3/1000 strokes	: 8.0	†
Check tolerance		FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000s.	: 12.0	TOLL COAD DELIVERY AT TOLL COAD STOP
0107 10000		Rated speed rpm : 1150
Rated speed rpm	: 350	+ Aneroid pressure
		+ hPa : 1500
Rack travel in m		Del. quantity
Tolerance mm	: <del>+-</del> 0.30	+ cm3/1000 strokes : 277.0
Del. quantity	43.0	† Tolerance
cm3/1000 strokes	: 13.0	+ cm3/1000 strokes : + 1.0
Tolerance cm3/1000 strokes	: +- 3.0	+ Check tolerance + cm3/1000s. : +- 4.0
Check tolerance	. +- 3.0	+ Spreed
cm3/1000s.	: +- 6.0	+ Tolerance
Spreed		+ cm3/1000 strokes : 8.0
Tolerance		+ Check tolerance
cm3/1000 strokes	: 4.0	+ cm3/1000s. : 12.0
Check tolerance		+
cm3/1000s.	: 8.0	2472 00572
		RATED SPEED
(B) SETTING OF IN	LIECTION PUMP	I
WITH GOVERNOR		+ control lever
		position degree : 109.0
		+ tolerance degree : + 4.0
GUIDE SLEEVE TRAV	/EL	<b>†</b>
Made and an and areas	. 750	rack travel mm : 13.50
Rated speed rpm guide sleeve	: 350	+ Rated speed rpm : 1195 + Tolerance 1/min : + 5
travel mm	: 1.53	T Toterance Training . F- 3
Tolerance mm	: +- 0.20	rack travel mm : 4.00
		Rated speed rpm : 1305
Rated speed rpm	: 1206	+ Tolerance 1/min : +- 15
guide sleeve		†
travel mm	: 9.35	+ rack travel mm : 0.70
Tolerance mm	: + 0.15	+ Tolerance mm : +- 0.70
Dobod spood spo	. 055	Rated speed rpm : 1400
Rated speed rpm guide sleeve	<b>:</b> 855	
travel mm	: 5.56	LOW IDLE
Tolerance mm	: +- 0.25	+
	· · <del>•</del> -	+
Rated speed rpm	<b>:</b> 540	control lever
guide sleeve		position degree : 65.0
travel mm	3.09	tolerance degree : +- 4.0
Tolerance mm	: +- 0.25	†

Testing:		+		
Rated speed rpm rack travel mm	: 350 : 6.00	‡	START CUT-OUT	
Tolerance mm	: + 0.10	1	Rated speed rpm Check	: < 270
Rated speed rpm	: 250	1	speed 1/min	: < 290
CRT mm min.	: > 6.88	<u>†</u>	FUEL DELIVERY CHA	ARACTERISTICS
Rated speed rpm	: 400	1	Aneroid pressure	,
			hPa	: 1500
TORQUE CONTROL		+	Rated speed rpm	: 750
		+	Del. quantity	
Rated speed rpm	: 1150	+ 1	cm3/1000 strokes	: 281.0
rack travel mm		+	Tolerance	
Tolerance mm	: + 0.05	+	cm3/1000 strokes	: + 2.0
Debed exect see	: 950	Ť	Check tolerance	: +- 5.0
Rated speed rpm		Ť	cm3/1000s.	: +- 5.0
rack travel mm		†	Spreed	
Tolerance mm	: +- 0.10	†	Tolerance	0.0
	750	†	cm3/1000 strokes	: 8.0
Rated speed rpm		†	Check tolerance	40.0
rack travel mm		†	cm3/1000S.	: 12.0
Tolerance mm	: + 0.10	†	• •	
<b>6.4.1</b>		†	Aneroid pressure	4500
Rated speed rpm		†	hPa	: 1500
rack travel mm	: 13.30	+	Rated speed rpm	: 600
Tolerance mm	: +- 0.70	†	Del. quantity	075 0
		†	cm3/1000 strokes	: 275.0
		+	Tolerance	. 70
ANEROID/ALTITUDE		†	cm3/1000 strokes	: +- 3.0
COMPENSATOR TEST		+	Check tolerance	
		İ	cm3/1000s.	: +- 6.0
SETTING		I	Aneroid pressure	
0E171149		I	hPa	• ~
Rated speed rpm	: 1150	I	Rated speed rpm	500
Pressure hPa	: 1500	1	Del. quantity	. 505
rack travel mm	: 14.50	1	cm3/1000 strokes	• 155.0
Tolerance mm	: +- 0.05	1	Tolerance	. ,,,,,,,
roter acree man	0.03	1	cm3/1000 strokes	: +- 1.0
MEASUREMENT		1	Check tolerance	7.0
TIEMOOKE IEW		1	cm3/1000s.	: +- 4.0
Pressure hPa	•	1		
Rated speed rpm	: 1150	+		<del></del>
rack travel mm	: 10.90	1	BREAKAWAY	
Tolerance mm	: +- 0.15			
		+		
Rated speed rpm	: 1150	+	Rack travel in mm	
		+	Rated speed rpm	
Pressure hPa	: 850	+	Tolerance 1/min	: +- 5
rack travel mm	: 13.90	+		
Tolerance mm	: ← 0.05	+		
		+		
Pressure hPa	: 350	+	STARTING FUEL DEL	IVERY
rack travel mm	: 11.50	+		
Tolerance mm	: +- 0.20	+	Rated speed rpm	
		+	rack travel mm	: 13.90
		•		

Tolerance mm : + 0.20
Del. quantity
cm3/1000 strokes : 170.0
Tolerance
cm3/1000 strokes : + 15.0
Check tolerance
cm3/1000s. : + 19.0

## LOW IDLE

Rated speed rpm 350 8.00 rack travel mm Tolerance mm : **←** 0.30 Del. quantity cm3/1000 strokes : 13.0 Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s. 6.0 Spreed Tolerance cm3/1000 strokes : 4.0 Check tolerance cm3/1000S. 8.0

Note remarks

Refer to Service Info for test and adjustment instructions.

See microcard(s) W400/...

Edition : 22.09.95 : ISO 4113 Test oil

Combination No. : 0 402 746 957

Injection pump

Pump designation : PES6P120A720RS7292

: -1

EP type number : 0 412 726 939

Governor

Governer design. : RQV350...1150PA1074

: -2K

: 0 421 815 367 Governer no.

Cust. part No. : 0250741002

Customer-spec. information Customer : MB-NFZ : 0M366LA Motor

Power KW : 157.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C Tolerance °C

Overflow valve : 1 417 413 047

1.5 Inlet press. bar : : + 0.1 Tolerance bar

Overflow quantity

min. L/h : 100 Tolerance L/h : +- 10.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 bar

Tolerance bar : +- 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : + 1.0

Prestroke mm 4.00 : +- 0.05 Tolerance mm

: + 0.10test only

Rack travel in mm: 20.50 : +- 0.50 Tolerance mm

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

: +- 0.30 Tolerance

Check

tolerance \*NW : + 0.75

Start of delivery blocking

\*NW after s.o.d. : 3.30

Barrel no. 1

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm: 14.40

Tolerance mm	: +- 0.05 +	
B. C	<del></del>	Rated speed rpm : 1480
Del. quantity cm3/1000 strokes	. 290 0	guide sleeve travel mm : 13.50
CHOT 1000 STrokes	· 200.0	Tolerance mm : + 0.50
Tolerance		Total and a man 10.50
cm3/1000 strokes	: + 1.0 <del> </del>	
		GUIDE SLEEVE POSITION
Check tolerance	+	
cm3/1000s,	: + 4.0 +	Rated speed rpm : 1331
Connected		Park trained to make 47.50
Spreed Tolerance	Ī	Rack travel in mm : 13.50 Tolerance mm : +- 1.30
cm3/1000 strokes	: 8.0	rocerance man
CINCY FOOD SET ONES		
Check tolerance		FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000s.	: 12.0	
	+	Rated speed rpm : 1150
Rated speed rpm	: 350 +	Aneroid pressure
Danie Annai II da		hPa : 1500
Rack travel in mn	n: 8.00 + 0.30	Del. quantity cm3/1000 strokes : 280.0
Tolerance mm Del. quantity	: - 0.50	Tolerance
cm3/1000 strokes	: 13.0	cm3/1000 strokes : +- 1.0
Tolerance	1	Check tolerance
cm3/1000 strokes	: + 3.0 +	cm3/1000s. : + 4.0
Check tolerance	+	Spreed
cm3/1000s.	:+ 6.0	Tolerance
Spreed	+	cm3/1000 strokes : 8.0
Tolerance	†	Check tolerance
cm3/1000 strokes	: 4.0	cm3/1000s. : 12.0
Check tolerance cm3/1000s.	: 8.0	
CIRCI TOUGS.	: 8.0	RATED SPEED
	1	11711 G.W. WI Salas W
(B) SETTING OF IN	JUECTION PUMP	
WITH GOVERNOR	+	control lever
	+	position degree : 109.0
CUTAC OF EDIC TOUR	, e ,	tolerance degree : $\leftarrow$ 4.0
GUIDE SLEEVE TRAV	'EL	rack travel mm : 13.40
Rated speed rpm	: 350	Rated speed rpm : 1195
guide sleeve	1	Tolerance 1/min : + 5
travel mm	: 1.53	
Tolerance mm	: <b></b> 0.20 +	rack travel mm : 4.00
	+	Rated speed rpm : 1305
Rated speed rpm	: 1206 +	Tolerance 1/min : + 15
guide sleeve	. 0.75	rack travel mm : 0.70
travel mm Tolerance mm	: 9.35 : +- 0.15	rack travel mm : 0.70 Tolerance mm : + 0.70
roterance min	· +- 0.15	Rated speed rpm : 1400
Rated speed rpm	: 855	Nated Speed Pail 1 1400
guide sleeve	1	
travel mm	: 5.56	LOW IDLE
Tolerance mm	: + 0.25	
	+	
Rated speed rpm	: 550	control lever
guide sleeve	. 3 17	position degree : 65.0
travel mm Tolerance mm	: 3.17 : + 0.25	tolerance degree : +- 4.0
TOTAL GIFTS THE	Т	

		•		
10	~*		~~	•
Te	<b></b>			

Rated speed rpm	:		350
rack travel mm	:		6.00
Tolerance mm	:	+	0.10

Rated speed rpm : 250

CRT mm min. :> 6.88

Rated speed rpm : 400

## TORQUE CONTROL

Rated speed rpm	:	1	150
rack travel mm	:		14.40
Tolerance mm	:	+	0.05

Rated speed rpm : 950 rack travel mm : 14.25 Tolerance mm : + 0.10

Rated speed rpm : 750 rack travel mm : 13.70 Tolerance mm : + 0.10

Rated speed rpm : 600 rack travel mm : 13.20 Tolerance mm : + 0.10

## ANEROID/ALTITUDE COMPENSATOR TEST

## SETTING

Rated speed rpm	:	1150
Pressure hPa	:	1500
rack travel mm	:	14.40
Tolerance mm		<b>→</b> 0.05

## MEASUREMENT

Pressure hPa : Rated speed rpm : 1150
rack travel mm : 10.50
Tolerance mm : + 0.15

Rated speed rpm : 1150

Pressure hPa : 1050 rack travel mm : 13.70 Tolerance mm : + 0.05

Pressure hPa : 400 rack travel mm : 11.30 Tolerance mm : +- 0.15

#### START CUT-OUT

Rated	speed	rpm	: <	270
Check				
speed	1/min		: <	290

#### FUEL DELIVERY CHARACTERISTICS

## Aneroid pressure

hPa	:	1500
Rated speed rpm	:	750
Del quantity		

cm3/1000 strokes : 285.0

Tolerance

cm3/1000 strokes : + 2.0
Check tolerance
cm3/1000s. : + 5.0
Spreed

Tolerance

cm3/1000 strokes : 8.0 Check tolerance

cm3/1000s. : 12.0

## Aneroid pressure

hPa : 1500 Rated speed rpm : 600 Del. quantity

cm3/1000 strokes : 277.0

Tolerance

cm3/1000 strokes : + 3.0 Check tolerance

cm3/1000s. : +- 6.0

Aneroid pressure

nPa : Rated speed rpm : 500
Del. quantity

cm3/1000 strokes : 143.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : + 4.0

#### BREAKAWAY

Rack travel in mm: 13.40
Rated speed rpm: 1195
Tolerance 1/min: +- 5

## STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 13.80

Tolerance mm : + 0.20
Del. quantity
cm3/1000 strokes : 175.0
Tolerance
cm3/1000 strokes : + 15.0
Check tolerance
cm3/1000S. : + 19.0

## LOW IDLE

Rated speed rpm 350 8.00 rack travel mm : +- 0.30 Tolerance mm Del. quantity 13.0 cm3/1000 strokes : Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s. 6.0 Spreed Tolerance cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. 8.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 22.09.95 Edition Test oil : ISO 4113

Combination No. : 0 402 746 959

Injection pump

Pump designation : PES6P120A720RS7292

: -1

EP type number : 0 412 726 939

Governor

Governer design. : RQV350...1150PA1104K

: 0 421 815 368 Governer no.

Cust. part No. : 0250741402

Customer-spec. information : MB-NFZ Customer Motor : 0M366LA Power KW : 172.0

#### TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity

min. L/h : 100 Tolerance L/h : + 10.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 bar Tolerance bar : + 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 1000

### REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar: 26.0 Tolerance bar : +- 1.0

: 4.00 : + 0.05 Prestroke mm Tolerance man

test only : + 0.10

Rack travel in mm: 20.50 : +- 0.50 Toterance mm

: 1-5- 3- 6- 2-Firing order

: 4

: 0-60-120-180-240 Phasing

: -300

: + 0.30 Tolerance

Check

tolerance \*NW : +- 0.50

Start of delivery blocking

\*NW after s.o.d. : 3.30

Barrel no. : 1

#### BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm: 14.40

Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 280.0 Tolerance	guide sleeve travel mm : 13.50 Tolerance mm : +- 0.50
cm3/1000 strokes : + 1.0	GUIDE SLEEVE POSITION
Check tolerance cm3/1000s. : + 4.0	Rated speed rpm : 1329
Spreed Tolerance cm3/1000 strokes : 8.0	Rack travel in mm : 13.25 Tolerance mm : + 1.30
Check tolerance : 12.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Rated speed rpm : 350	Rated speed rpm : 1150 Aneroid pressure
Rack travel in mm: 8.00 Tolerance mm: + 0.30 Del. quantity	hPa : 1500 Del. quantity cm3/1000 strokes : 280.0 Tolerance
cm3/1000 strokes : 13.0 Tolerance	cm3/1000 strokes : + 1.0 Check tolerance
cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0	cm3/1000s. : ← 4.0 Spreed Tolerance
Spreed Tolerance	cm3/1000 strokes : 8.0 Check tolerance
cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. : 8.0	cm3/1000s. : 12.0
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	control lever position degree : 109.0
GUIDE SLEEVE TRAVEL	tolerance degree : +- 4.0  rack travel mm : 13.40
Rated speed rpm : 350 guide sleeve travel mm : 1.53	Rated speed rpm : 1195 Tolerance 1/min : +- 5
Tolerance mm : + 0.20  Rated speed rpm : 1205	rack travel mm : 4.00 Rated speed rpm : 1300 Tolerance 1/min : +- 15
guide sleeve travel mm : 9.35 Tolerance mm : + 0.15	rack travel mm : 0.70 Tolerance mm : +- 0.70 Rated speed rpm : 1400
Rated speed rpm : 855 guide sleeve	rated speed (pin . 1400
travel mm : 5.56 Tolerance mm : + 0.25	LOW IDLE
Rated speed rpm : 540 guide sleeve	control lever position degree : 65.0
travel mm : 3.09 Tolerance mm : + 0.25	tolerance degree : +- 4.0 Testing:
Rated speed rpm : 1480	w

Datasi anaasi nam	. 750	1
Rated speed rpm rack travel mm Tolerance mm	• 4 <b>0</b> 0	T Rated speed rpm : < 270
Tolerance mm	· +- 0.10	Check
toter office app	0.10	=
Rated speed rpm	: 250	t speed 1/11/1/1
CRT mm min.	: > 6.88	FUEL DELIVERY CHARACTERISTICS
Rated speed rpm	: 400	Aneroid pressure
		+ hPa : 1500
		Rated speed rpm : 750
TORQUE CONTROL		Del. quantity
		cm3/1000 strokes : 290.0
Rated speed rpm	: 1150	+ Tolerance
rack travel mm Tolerance mm	: 14.40	+ cm3/1000 strokes : + 2.0
Tolerance mm	: +- 0.05	+ Check tolerance
	250	cm3/1000s. : +- 5.0
Rated speed rpm	: 950	Spreed
Rated speed rpm rack travel mm Tolerance mm	14.40	† Tolerance
Tolerance mm	: +- U.70	- cm3/1000 strokes : 8.0
Date of an I	750	+ Check tolerance
kated speed rpm	: (50	cm3/1000s. : 12.0
Rated speed rpm rack travel mm Tolerance mm	: 13.90	† • • • • • • • • • • • • • • • • • • •
loterance mm	: +- 0.70	Aneroid pressure
<b>~</b>		+ hPa : 1500
Rated speed rpm rack travel mm Tolerance mm	: 000	+ Rated speed rpm : 600
rack travel mm	: 13.40	Del. quantity
loterance mm	: + 0.10	cm3/1000 strokes : 283.0
		+ Tolerance
ANCOOTO / AL TITUDE		
ANEROID/ALTITUDE		Check tolerance
COMPENSATOR TEST		cm3/1000s. : + 6.0
		Anancid processes
SETTING		+ Aneroid pressure + hPa : -
SE111140		Rated speed rpm : 500
Dotad cheed rom	• 1150	Del. quantity
Rated speed rpm Pressure hPa rack travel mm	• 1500	cm3/1000 strokes : 134.0
rack thavel mm	* 1/. /0	Tolerance
Tolerance mm		cm3/1000 strokes : +- 1.0
וטנכו מוועכ ואוו	0.00	+ Check tolerance
MEASUREMENT		- cm3/1000s. : + 4.0
i English		1.0
Pressure hPa	: ~	
Pressure hPa Rated speed rpm	: 1150	→ BREAKAWAY
rack travel mm	: 10.40	4
rack travel mm Tolerance mm	: +- 0.15	+
		Rack travel in mm: 13.40
Rated speed rpm	: 1150	Rated speed rpm : 1195
		Tolerance 1/min : + 5
Pressure hPa	: 1050	+
rack travel mm	: 13.60	+
rack travel mm Tolerance mm	: <b>←</b> 0.05	
		STARTING FUEL DELIVERY
Pressure hPa	: 450	+
rack travel mm	: 11.30	Rated speed rpm : 100
Tolerance mm	: +- 0.10	+ rack travel mm : 13.60
		rack travel mm : 13.60 Tolerance mm : + 0.20
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
START CUT-OUT		+ cm3/1000 strokes : 155.0

Tolerance		
cm3/1000 strokes	: +-	15.0
Check tolerance		

cm3/1000s. : + 19.0

## LOW IDLE

Rated speed rpm : 350 rack travel mm : 8.00 Tolerance mm : + 0.30 Del. quantity cm3/1000 strokes : 13.0 Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s. 6.0 Spreed Tolerance cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. 8.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 22.09.95 Test oil : ISO 4113

Combination No. : 0 402 746 960

Injection pump

Pump designation : PES6P120A720RS7292

: -1

EP type number : 0 412 726 939

Governor

Governer design. : RQV350...1150PA1104

: -1K

Governer no. : 0 421 815 371

Cust. part No. : 0250741302

Customer—spec. information Customer : MB-NFZ

Motor : 0M366LA Power KW : 157.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp.  $^{\circ}$ C :

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5Tolerance bar :  $\leftarrow$  0.1

Overflow quantity

min. L/h : 100 Tolerance L/h : + 10.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5

Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.00 Tolerance mm : + 0.05

test only :  $\leftarrow$  0.10

Rack travel in mm : 20.50 Tolerance mm : + 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300 Tolerance : +- 0.30

Check

tolerance °NW : + 0.50

Start of delivery blocking

\*NW after s.o.d. : 3.30

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 14.40

Tolerance mm : + 0.05 +	-
***************************************	- Rated speed rpm : 1480
Del. quantity	- guide sleeve
cm3/1000 strokes : 280.0	- travel mm : 13.50 - Tolerance mm : +- 0.50
Tolerance	- Tolerance mm : +- 0.50
cm3/1000 strokes : +- 1.0	
	- GUIDE SLEEVE POSITION
Check tolerance	•
cm3/1000s. : +- 4.0	Rated speed rpm : 1331
Spreed	Rack travel in mm : 13.40
Tolerance	Tolerance mm : + 1.30
cm3/1000 strokes : 8.0	,
Check tolerance	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000s. : 12.0	Rated speed rpm : 1150
Rated speed rpm : 350	Aneroid pressure
	hPa : 1500
Rack travel in mm: 8.00	Del. quantity
Tolerance mm : +- 0.30	cm3/1000 strokes : 280.0
Del. quantity + cm3/1000 strokes : 13.0 +	Tolerance cm3/1009 strokes : +- 1.0
cm3/1000 strokes : 13.0	cm3/1009 strokes : +- 1.0 Check tolerance
cm3/1000 strokes : + 3.0	cm3/1000s. : +- 4.0
Check tolerance +	Spreed
cm3/1000s. : + 6.0 +	Tolerance
Spreed	cm3/1000 strokes : 8.0
Tolerance + cm3/1000 strokes : 4.0 +	Check tolerance cm3/1000s. : 12.0
Check tolerance	
cm3/1000s. : 8.0	
+	RATED SPEED
(B) SETTING OF INJECTION PUMP	
WITH GOVERNOR	control lever
1	position degree : 109.0
	tolerance degree : +- 4.0
GUIDE SLEEVE TRAVEL	47.40
Rated speed rpm : 350 +	rack travel mm : 13.40 Rated speed rpm : 1195
Rated speed rpm : 350 + guide sleeve +	Tolerance 1/min : +- 5
travel mm : 1.53	roset aijus 17intty
Tolerance mm : + 0.20 +	rack travel mm : 4.00
<b>†</b>	Rated speed rpm : 1305
Rated speed rpm : 1206	Tolerance 1/min : +- 15
guide sleeve + travel mm : 9.35 +	rack travel mm : 0.70
Tolerance mm : + 0.15	Tolerance mm : +- 0.70
1	Rated speed rpm : 1400
Rated speed rpm : 855	
guide sleeve	LOUTRE
travel mm : 5.56 + Tolerance mm : + 0.25 +	LOW IDLE
Total alice likit	
Rated speed rpm : 540	control lever
guide sleeve	position degree : 65.0
travel mm : 3.09 +	tolerance degree : +- 4.0
Tolerance mm : + 0.25 +	

Testing:		<u> </u>
Rated speed rpm rack travel mm	: 6.00	START CUT-OUT
Tolerance mm	: + 0.10	+ Rated speed rpm : < 270 + Check
Rated speed rpm	: 250	speed 1/min : < 290
CRT mm min.	: > 6.88	FUEL DELIVERY CHARACTERISTICS
Rated speed rpm	: 400	Aneroid pressure
		- + hPa : 1500
TORQUE CONTROL		Rated speed rpm : 750
Rated speed rpm	: 1150	t Del. quantity cm3/1000 strokes : 285.0
rack travel mm	: 14.40	Tolerance
Tolerance mm	: +- 0.05	cm3/1000 strokes : + 2.0 Check tolerance
Rated speed rpm	: 950	- cm3/1000s. : + 5.0
rack travel mm		Spreed
Tolerance mm	: +- 0.10	+ Tolerance
		- cm3/1000 strokes : 8.0
Rated speed rpm	: 750	+ Check tolerance
rack travel mm	: 13.70	+ cm3/1000s. : 12.0
Tolerance mm	: +- 0.10	†
Datasi amaasi uun	. 400	Aneroid pressure
Rated speed rpm rack travel mm		+ hPa : 1500 + Rated speed rpm : 600
Tolerance mm	: + 0.10	+ Rated speed rpm : 600 - Del. quantity
Toterance min	0.10	+ cm3/1000 strokes : 277.0
		+ Tolerance
ANEROID/ALTITUDE		+ cm3/1000 strokes : + 3.0
COMPENSATOR TEST		+ Check tolerance
		t cm3/1000s. : ← 6.0
SETTING		Aneroid pressure hPa : -
Rated speed rpm Pressure hPa	: 1150 : 1500	Rated speed rpm : 500 Del. quantity
rack travel mm	: 14.40	+ cm3/1000 strokes : 143.0
Tolerance mm	: <b>←</b> 0.05	+ Tolerance + cm3/1000 strokes : ← 1.0
MEASUREMENT		- Check tolerance
Pressure hPa	: -	cm3/1000s. : +- 4.0
Rated speed rpm	: 1150	
rack travel mm	: 10.50	BREAKAWAY
Tolerance mm	: ← 0.15	+
Rated speed rpm	: 1150	Rack travel in mm: 13.40
		+ Rated speed rpm : 1195
Pressure hPa	: 1050	† Tolerance 1/min : +- 5
rack travel mm	: 13.70	+
Tolerance mm	: <del>-</del> 0.05	
Pressure hPa	: 400	STARTING FUEL DELIVERY
rack travel mm	: 11.30	
Tolerance mm	: +- 0.15	Rated speed rpm : 100
		+ rack travel mm : 13.80
		·

Tolerance mm : + 0.20
Del. quantity
cm3/1000 strokes : 175.0
Tolerance
cm3/1000 strokes : + 15.0
Check tolerance
cm3/1000S. : + 19.0

## LOW IDLE

350 Rated speed rpm : 8.00 rack travel mm Tolerance mm : **←** 0.30 Del. quantity cm3/1000 strokes : 13.0 Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s. 6.0 Spreed Tolerance cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. 8.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 22.09.95 Edition : ISO 4113 Test oil

Combination No. : 0 402 746 961

Injection pump

Pump designation : PES6P120A720RS7292

: -1

EP type number : 0 412 726 939

Governor

Governer design. : RQV350...1150PA1104

: -2K

: 0 421 815 372 Governer no.

Cust. part No. : 0250741202

Customer-spec. information Customer : MB-NFZ Motor : 0M366LA Power KW : 142.0

### TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C 40 Tolerance °C 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : Tolerance bar :  $\leftarrow$  0.1

Overflow quantity

min. L/h : 100 Tolerance l/h: + 10.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 bar

Tolerance bar : +- 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

# BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar :+ 1.0

Prestroke mm : 4.00 Tolerance mm : + 0.05

test only : ← 0.10

Rack travel in mm: 20.50 Tolerance mm : + 0.50

: 1-5-3-6-2-Firing order

: 0-60-120-180-240 Phasing

: -300

: +- 0.30 Tolerance

Check

tolerance "NW : +- 0.50

Start of delivery blocking

"NW after s.o.d. : 3.30

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm: 14.50

Tolerance mm : + 0.05	1
roterance han : +- 0.05	Rated speed rpm : 1480
Del. quantity	guide sleeve
cm3/1000 strokes : 277.0	travel mm : 13.50
	Tolerance mm : + 0.50
Tolerance -	†
cm3/1000 strokes : +- 1.0	GUIDE SLEEVE POSITION
Check tolerance	T GOIDE SEEENE POSITION
cm3/1000s. : +- 4.0	Rated speed rpm : 1331
Spreed	Rack travel in mm: 13.50
Tolerance -	Tolerance mm : + 1.30
cm3/1000 strokes : 8.0	
Check tolerance	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000s. : 12.0	TOLL LONG GELLALING AT TOLL LONG GTO
•	Rated speed rpm : 1150
Rated speed rpm : 350	Aneroid pressure
	hPa : 1500
Rack travel in mm: 8.00	Del. quantity
Tolerance mm : + 0.30	cm3/1000 strokes : 277.0
Del. quantity - cm3/1000 strokes : 13.0 -	Tolerance : 1.0
Tolerance	Check tolerance
cm3/1000 strokes : + 3.0	cm3/1000s. : + 4.0
Check tolerance	Spreed
cm3/1000s. : + 6.0	Tolerance
Spreed -	cm3/1000 strokes : 8.0
Tolerance	Check tolerance
cm3/1000 strokes : 4.0	cm3/1000s. : 12.0
Check tolerance - cm3/1800s. : 8.0 -	
cm3/1800s. : 8.0	RATED SPEED
	NATED OF LED
(B) SETTING OF INJECTION PUMP	
WITH GOVERNOR -	control lever
4	position degree : 108.0
ALTER ALEMAN TO ALEM	tolerance degree : +- 4.0
GUIDE SLEEVE TRAVEL	rack travel mm : 13.50
Rated speed rpm : 350	- Rated speed rpm : 1195
guide steeve	Tolerance 1/min : +- 5
travel mm : 1.53	
Tolerance mm : + 0.20	rack travel mm : 4.00
	- Rated speed rpm : 1305
Rated speed rpm : 1206	Tolerance 1/min : +- 15
guide sleeve + 9.35	rack travel mm : 0.70
travel mm : 9.35 + 0.15	- rack travel mm : 0.70 - Tolerance mm : +- 0.70
Toteraste inii . 7- 0.15	- Rated speed rpm : 1400
Rated speed rpm : 855	- Natura opera i più i 1700
guide sleeve	
travel mm : 5.56	- LOW IDLE
Tolerance mm : + 0.25	
7.0	· · · · · · · · · · · · · · · · · · ·
Rated speed rpm : 540	- control lever
guide sleeve + travel mm : 3.09	- position degree : 70.0 - tolerance degree : +- 4.0
travel mm : 3.09 + Tolerance mm : + 0.25 +	- Fotel ance degree . The 4.0

Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 350 : 6.00 : + 0.10
Rated speed rpm	: 250
CRT mm min.	: > 7.00
Rated speed rpm	: 400
TORQUE CONTROL	
Rated speed rpm rack travel mm Tolerance mm	: 1150 : 14.50 : + 0.05
Rated speed rpm rack travel mm Tolerance mm	: 950 : 14.30 : + 0.10

750

: +- 0.10

: + 0.10

13.70

600

ANEROID/ALT	LTUDE
COMPENSATOR	TEST

Tolerance mm

Rated speed rpm

rack travel mm

Rated speed rpm :

rack travel mm : 13.30

Tolerance mm

# SETTING

Rated speed rpm	:	1150
Pressure hPa	:	1500
rack travel mm	:	14.50
Tolerance mm	:	→ 0.05

# **MEASUREMENT**

Pressure hPa	:	-
Rated speed rpm	:	1150
rack travel mm	:	10.90
Tolerance mm	:	+ 0.15

Rated	hears	In land	•	1150
Raileu	SUEEU	1.7111		・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・

Pressure hPa	:	850
rack travel mm	:	13.90
Tolerance mm	: +-	- 0.05

Pressure hPa	:	350
rack travel mm	:	11.50
Tolerance mm	: +	- 0.20

START CUT-OUT			
Rated speed rpm Check	: <	270	
speed 1/min	: <	290	
FUEL DELIVERY CHARACTERISTICS			
Aneroid pressure			

hPa	:	1500
Rated speed rpm	:	750
Del. quantity		
cm3/1000 strokes	:	281.0
Tolerance		
cm3/1000 strokes	: +-	- 2.0
Check tolerance		
cm3/1000s.	: +	- 5.0
Spreed		
Tolerance		
cm3/1000 strokes	:	8.0
Check tolerance		
cm3/1000s.	:	12.0

	•	
Aneroid pressure		
hPa	:	1500
Rated speed rpm	:	600
Del. quantity		
cm3/1000 strokes	:	275.0
Tolerance		1-
cm3/1000 strokes	:	<b>←</b> 3.0
Check tolerance		
cm3/1000s.	: '	<del></del> 6.0

Aneroid pressure		
hPa	:	-
Rated speed rpm	:	500
Del. quantity		
cm3/1000 strokes	:	155.0
Tolerance		
cm3/1000 strokes	: +	- 1.0
Check tolerance		
cm3/1000s.	: +	- 4.0

# BREAKAWAY

Rack travel in m	nen :	13.50
Rated speed rpm	:	1195
Tolerance 1/min	•	+- 5

# STARTING FUEL DELIVERY

Rated speed	rpm	:	100
rack travel	mm	:	13.90

Tolerance mm	: <b>←</b> 0.20
Del. quantity cm3/1000 strokes	: 170.0
Tolerance cm3/1000 strokes Check tolerance	: + 15.0
cm3/1000s.	: +- 19.0

# LOW IDLE

Rated speed rpm rack travel mm Tolerance mm	: +	350 8.00 0.30
Del. quantity cm3/1000 strokes	•	13.0
Tolerance	•	13.0
cm3/1000 strokes	: +	3.0
Check tolerance cm3/1000s. Spreed	: +-	6.0
Tolerance	_	/ 0
cm3/1000 strokes Check tolerance	•	4.0
cm3/1000s.	:	8.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 22.09.95 Test oil : ISO 4113

Combination No. : 0 402 746 962

Injection pump

Pump designation : PES6P120A720RS7292

: -1

EP type number : 0 412 726 939

Governor

Governer design. : RQV350...1150PA1104

: -3K

Governer no. : 0 421 815 373

Cust. part No. : 0250741102

Customer—spec. information
Customer : MB-NFZ
Mologo : OM366LA
Power KW : 127.1

#### TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. \*C : 40 Tolerance \*C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity

min. L/h : 100
Tolerance L/h : +- 10.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5

Tolerance bar : +- 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 4.00 Tolerance mm : + 0.05

test only :  $\leftarrow$  0.10

Rack travel in mm : 20.50 Tolerance mm : + 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance :  $\leftarrow$  0.30

Check

tolerance "NW : + 0.50

Start of delivery blocking

\*NW after s.o.d. : 3.30

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 14.20 Tolerance mm : +- 0.05

	+ Rated speed rpm : 1480
Del. quantity	guide steeve
cm3/1000 strokes : 271.0	+ travel mm : 13.50
	Tolerance mm : +- 0.50
Tolerance	+
cm3/1000 strokes : +- 1.0	
V-1-40-2	+ GUIDE SLEEVE POSITION
Check tolerance	+
cm3/1000s. : +- 4.0	+ Rated speed rpm : 1329
	+
Spreed	Rack travel in mm: 13.20
Tolerance	Tolerance mm : +- 1.30
cm3/1000 strokes : 8.0	T
Check tolerance	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000s. : 12.0	I TOLE LOAD DELIVERY AT TOLE COAD STOP
12.0	Rated speed rpm : 1150
Rated speed rpm : 350	Aneroid pressure
naca apea (piii - esa	+ hPa : 1500
Rack travel in mm: 8.00	+ Del. quantity
Tolerance mm : +- 0.30	+ cm3/1000 strokes : 271.0
Del. quantity	Tolerance
cm3/1000 strokes : 13.0	+ cm3/1000 strokes : + 1.0
Tolerance	+ Check tolerance
cm3/1000 strokes : + 3.0	+ cm3/1000s. : +- 4.0
Check tolerance	+ Spreed
cm3/1000s. : +- 6.0	+ Tolerance
Spreed	+ cm3/1000 strokes : 8.0
Tolerance	+ Check tolerance
cm3/1000 strokes : 4.0	+  cm3/1000S. : 12.0
Check tolerance	+
cm3/1000s. : 8.0	
	+ RATED SPEED
ON CETTAIC OF THIS COTTON DING	†
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	T control lever
MT (4 GOVERNOR	position degree : 109.0
	tolerance degree : +- 4.0
GUIDE SLEEVE TRAVEL	T total ance degree 4.0
GOINE SEELAE WHAFE	rack travel mm : 13.20
Rated speed rpm : 350	+ Rated speed rpm : 1195
guide sleeve	+ Tolerance 1/min : + 5
travel mm : 1.53	1
Tolerance mm : + 0.20	+ rack travel mm : 4.00
	+ Rated speed rpm : 1300
Rated speed rpm : 1205	+ Tolerance 1/min : +- 15
guide sleeve	1
travel mm : 9.35	+ rack travel mm : 0.70
	+ Tolerance mm : + 0.70
travel mm : 9.35 Tolerance mm : ± 0.15	
travel mm : 9.35 Tolerance mm : + 0.15  Rated speed rpm : 855	+ Tolerance mm : + 0.70
travel mm : 9.35 Tolerance mm : + 0.15  Rated speed rpm : 855 guide sleeve	Tolerance mm : +- 0.70 Rated speed rpm : 1400
travel mm : 9.35 Tolerance mm : 4 0.15  Rated speed rpm : 855 guide sleeve travel mm : 5.56	+ Tolerance mm : + 0.70
travel mm : 9.35 Tolerance mm : + 0.15  Rated speed rpm : 855 guide sleeve	Tolerance mm : +- 0.70 Rated speed rpm : 1400
travel mm : 9.35 Tolerance mm : 4 0.15  Rated speed rpm : 855 guide sleeve travel mm : 5.56 Tolerance mm : + 0.25	Tolerance mm : +- 0.70 Rated speed rpm : 1400  LOW IDLE
travel mm : 9.35 Tolerance mm : 4 0.15  Rated speed rpm : 855 guide sleeve travel mm : 5.56 Tolerance mm : 4 0.25  Rated speed rpm : 540	Tolerance mm : + 0.70 Rated speed rpm : 1400  LOW IDLE  control lever
travel mm : 9.35 Tolerance mm : 4 0.15  Rated speed rpm : 855 guide sleeve travel mm : 5.56 Tolerance mm : 4 0.25  Rated speed rpm : 540 guide sleeve	Tolerance mm : + 0.70 Rated speed rpm : 1400  LOW IDLE  control lever position degree : 65.0
travel mm : 9.35 Tolerance mm : 40.15  Rated speed rpm : 855 guide sleeve travel mm : 5.56 Tolerance mm : 540 guide sleeve travel mm : 3.09	Tolerance mm : + 0.70 Rated speed rpm : 1400  LOW IDLE  control lever
travel mm : 9.35 Tolerance mm : 4 0.15  Rated speed rpm : 855 guide sleeve travel mm : 5.56 Tolerance mm : 4 0.25  Rated speed rpm : 540 guide sleeve	Tolerance mm : + 0.70 Rated speed rpm : 1400  LOW IDLE  control lever position degree : 65.0

	: 350	
travel mm erance mm	: 6.00	+ START CUT-OUT
rance man	: <b>←</b> 0.10	†
	ora	+ Rated speed rpm : < 27
ed speed rpm	: 250	+ Check
mm min.	·> 7 NN	speed 1/min : < 29
16056 16711 6	. > 1.00	
ed speed rpm	: 400	FUEL DELIVERY CHARACTERISTI
		Aneroid pressure
IUE CONTROL		+ hPa : 1500
		+ Rated speed rpm : 750
ed speed rpm	: 1150	+ Del. quantity
k travel mm erance mm	: 14.20	+ cm3/1000 strokes : 262.0
erance mm	: +- 0.05	∔ Tolerance
		+ cm3/1000 strokes : + 2.1
ed speed rom	: 950	- Check tolerance
k travel mm	: 13.80	+  cm3/1000s. : + 5.0
ted speed rpm ck travel mm erance mm	: +~ 0.10	Spreed
POLICIES INNI	0.10	Tolerance
ed speed rpm	. 750	- cm3/1000 strokes : 8.0
t though	. 17 20	+ Check tolerance
k travel mm	13.60	
erance mm	: 0.10	cm3/1000s. : 12.0
ed speed rpm	: 600	Aneroid pressure
travel mm	: 12.80	+ hPa : 1500
c travel mm	: +- 0.10	Rated speed rpm : 600
01/20 1/8/1	2.10	+ Del. quantity
ROID/ALTITUDE		Tolerance
		+ cm3/1000 strokes : + 3.0
MPENSATOR TEST		
		Check tolerance
77410		cm3/1000s. : +- 6.0
TING		†
	4450	+ Aneroid pressure
ed speed rpm		† hPa :
essure hPa	: 1500	+ Rated speed rpm : 500
	: 14.20	+ Del. quantity
erance mm	: ← 0.05	+ cm3/1000 strokes : 166.0
		+ Tolerance
SUREMENT		+ cm3/1000 strokes : + 1.0
		+ Check tolerance
ssure hPa	: -	cm3/1000s. : + 4.0
ed speed rpm	: 1150	
k travel mm		
erance mm	: +- 0.15	BREAKAWAY
· with the stand		- COSTRAINT
ed speed rpm	: 1150	†
		+ Rack travel in mm : 13.20
ssure hPa	: 850	+ Rated speed rpm : 1195
travel mm	: 13.50	+ Tolerance 1/min : + 5
erance mm	: +- 0.05	†
ssure hPa	: 350	İ
c travel mm		STARTING FUEL DELIVERY
		A SINKITING LOCK DELIVER!
ance mm	: + 0.10	Dotted annual annual 100
		+ Rated speed rpm : 100 + rack travel mm : 13.70
		± mark that at mm ← 7 < /F

Tolerance mm	: +- 0.20
Del. quantity cm3/1000 strokes	: 158.0
Tolerance cm3/1000 strokes	: + 15.0
Check tolerance cm3/1000s.	: ← 19.0

# LOW IDLE

Rated speed rpm rack travel mm Tolerance mm	: : +-	350 8.00 0.30
Del. quantity cm3/1000 strokes Tolerance	:	13.0
cm3/1000 strokes Check tolerance	: +-	3.0
cm3/1000s. Spreed	; +-	6.0
Tolerance cm3/1000 strokes Check tolerance	:	4.0
cm3/1000S.	:	8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 12.09.95 : ISO 4113

Combination No. : 0 402 746 967

Injection pump

Pump designation : PES6P120A320RS7324

EP type number : 0 412 726 905

Governor

Governer design. : RQ300/1200PA1132

Governer no. : 0 421 801 708

Cust. part No. : 51.11103-7296

Customer-spec. information

Customer : MAN

Motor

: D0826LF11/LFL03

Power KW

: 162.0

TEST BENCH REQUIREMENTS

inlet line : 4.2

Test oil inlet

temp. °C

Tolerance °C

40

: + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar :

2.0

Tolerance bar

: +- 0.1

Tolerance l/h: +- 10.0

Test nozzle holde

assembly

: 1 688 901 103

Opening pressure

bar

208.5

Tolerance bar

: + 1.5

Test Lines : 1 680 750 003

E05

Outside diameter : 6.0

x inside diameter :

2.0

x Length mm :

600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.15 Tolerance mm : + 0.05

test only :  $\leftarrow$  0.10

Rack travel in mm : 12.00

Tolerance mm : + 0.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.30

Check

tolerance °NW : +- 0.50

Start of delivery blocking

Barrel no.

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm: 5.00

: +- 0.10 Tolerance mm

Del. quantity

cm3/1000 strokes : 70.0

Tolerance

cm3/1000 strokes : +- 8.0

Check tolerance cm3/1000s.	: +- 11.0	Rated speed rpm : 1257
	+	guide sleeve
Spreed	Ţ	travel mm : 6.37 Tolerance mm : +- 0.10
Tolerance cm3/1000 strokes	: 3.5	Rated speed rpm : 1200
Check tolerance cm3/1000s.	: 8.0	guide sleeve travel mm : 6.00 Tolerance mm : +- 0.10
Rated speed rpm	: 1000	Rated speed rpm : 425 guide sleeve
Rack travel in mo Tolerance mon		travel mm : 4.31 Tolerance mm : + 0.10
Del. quantity cm3/1000 strokes	: 200.0	Rated speed rpm : 530 guide sleeve travel mm : 6.00
Tolerance cm3/1000 strokes	: + 1.0	Tolerance mm : + 0.10  Rated speed rpm : 1430
Check tolerance cm3/1000s.	+	guide sleeve travel mm : 11.50 Tolerance mm : ← 0.50
Spreed		Total arce man . 7 - 0.50
Tolerance cm3/1000 strokes	: 8.0	GUIDE SLEEVE POSITION
Check tolerance		Rated speed rpm : 600
cm3/1000s.	: 12.0	Rack travel in mm : 20.00 Tolerance mm : +- 0.80
Rated speed rpm	: 300	
Rack travel in mm Tolerance mm	;	FULL LOAD DELIVERY AT FULL LOAD STOP
Del. quantity cm3/1000 strokes	: 27.0	Rated speed rpm : 1000 Aneroid pressure
Tolerance cm3/1000 strokes	: + 3.0	hPa : 1500 Del. quantity
Check tolerance cm3/1000s. Spreed	: + 6.0	cm3/1000 strokes : 200.0 Tolerance cm3/1000 strokes : +- 1.0
Tolerance cm3/1000 strokes	: 8.0	Check tolerance cm3/1000s. : +- 4.0
Check tolerance cm3/1000s.	+	Spreed Tolerance
	+	cm3/1000 strokes : 8.0 Check tolerance
(B) SETTING OF IN WITH GOVERNOR	JECTION PUMP	cm3/1000s. : 12.0
GUIDE SLEEVE TRAV	EL +	RATED SPEED
Rated speed rpm guide sleeve travel mm	: 1.41	<pre>control lever position degree : 97.0 tolerance degree : +- 4.0</pre>
Tolerance mm	: ← 0.10 +	

rack travel mm Rated speed rpm Tolerance 1/min rack travel mm Rated speed rpm Tolerance 1/min rack travel mm Tolerance mm Rated speed rpm	: 1245 : +- 8 : 4.00 : 1328 : +- 15 : 0.25 : +- 0.25	MEASUREMENT  Pressure hPa : - Rated speed rpm : 500 rack travel mm : 8.00 Tolerance mm : + 0.20  Rated speed rpm : 500  Pressure hPa : 140 rack travel mm : 8.35 Tolerance mm : + 0.05
LOW IDLE		<del> </del>
control lever position degree tolerance degree	: 71.0 : + 4.0	Pressure hPa : 700 rack travel mm : 11.35 Tolerance mm : + 0.15
_	4.0	START CUT-OUT
Testing:		Rated speed rpm : < 220
Rated speed rpm	: 300	+ Check + speed 1/min : < 240
rack travel mm Tolerance mm	: + 0.10	speed (7) in (1) : < 240
rack travel mm		FUEL DELIVERY CHARACTERISTICS
Rated speed rpm Tolerance 1/min		+ Aneroid pressure
loterance itmin	; += 30	+ hPa : 1500
Rated speed rpm	: 250	Rated speed rpm : 1200 Del. quantity
CRT mm min.	: > 6.50	+ cm3/1000 strokes : 193.0 + Tolerance
TORQUE CONTROL		+ cm3/1000 strokes : +- 3.0
		Check tolerance cm3/1000s. : +- 6.0
Rated speed rpm rack travel mm		+ Aneroid pressure
Tolerance mm		hPa : 1500
		+ Rated speed rpm : 750
Rated speed rpm rack travel mm		+ Del. quantity + cm3/1000 strokes : 204.0
Tolerance mm	: +- 0.10	+ Tolerance
Data damanda asa	750	+ cm3/1000 strokes : +- 3.0
Rated speed rpm rack travel mm	: 750 • 12.45	† Check tolerance + cm3/1000s. : + 6.0
Tolerance mm		1
		Aneroid pressure
ANEROID/ALTITUDE		+ hPa : - + Rated speed rpm : 500
COMPENSATOR TEST		Del. quantity
		+ cm3/1000 strokes : 129.0
OFFICE		Tolerance
SETTING		+ cm3/1000 strokes : + 1.0 + Check tolerance
Rated speed rpm Pressure hPa	: 500 : 1500	cm3/1000s. : +- 4.0
rack travel mm Tolerance mm	: 12.45 : +- 0.05	BREAKAWAY

11.45 Rack travel in mm: Rated speed rpm : 1245 Tolerance 1/min : +-

## STARTING FUEL DELIVERY

Rated speed rom 100 13.00 rack travel mm : Del. quantity 189.0

cm3/1000 strokes : Tolerance

cm3/1000 strokes :  $\leftarrow$  15.0

Check tolerance

cm3/1000s. : +- 19.0

### LOW IDLE

Rated speed rpm 300 5.20 rack travel mm : ÷ 0.20 Tolerance mm Del. quantity

cm3/1000 strokes : 27.0 Tolerance

cm3/1000 strokes : + 3.0

Check tolerance

cm3/1000s. 6.0 Spreed

Tolerance

cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s. 12.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 22.08.95 Test oil : ISO 4113

Combination No. : 0 402 846 059

Injection pump

Pump designation : PE6P12OA72ORS8026 EP type number : 0 412 826 027

Governor

Governer design. : RQV200...950PA1091K

Governer no. : 0 421 815 984

Cust. part No. : 1355081

Customer—spec. information Customer : SCANIA Motor : DSC1172

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C : 40 Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5

Test nozzle holde

assembly : 1 688 901 104

Opening pressure

bar : 251.5 Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0

congen um

x length mm : 600

REMARKS

Start-of-delivery setting with ROBO diaphragm.

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.25
Tolerance mm : + 0.05

test only  $: \leftarrow 0.10$ 

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance :  $\leftarrow$  0.50

Check

tolerance \*NW : + 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 12.35 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 383.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s.	: + 4.0 +	guide sleeve travel mm : 3.58
Spreed	<del></del> ‡	Tolerance mm : + 0.25
Tolerance cm3/1000 strokes	: 8.0	Rated speed rpm : 1200 guide sleeve
Check tolerance		travel mm : 13.50 Tolerance mm : +- 0.50
cm3/1000s.	: 12.0	
Rated speed rpm	: 250	GUIDE SLEEVE POSITION
Rack travel in mo Tolerance mm	1	Rated speed rpm : 1060
Del. quantity	+	Rack travel in mm : 12.50
cm3/1000 strokes Tolerance	<del>}</del>	Tolerance mm : + 1.30
cm3/1000 strokes Check tolerance	: + 3.0	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000s.	: + 6.0	
Spreed	†	Rated speed rpm : 700 Aneroid pressure
Tolerance cm3/1000 strokes	: 4.0	hPa : -
Check tolerance	+	Del. quantity
cm3/1000s.	: 8.0 +	cm3/1000 strokes : 383.0
	1	Tolerance cm3/1000 strokes : +- 1.0
(B) SETTING OF IN	NJECTION PUMP	Check tolerance
WITH GOVERNOR	†	cm3/1000s. : +- 4.0
	†	Spreed
GUIDE SLEEVE TRAV	/EL	Tolerance cm3/1000 strokes : 8.0
Rated speed rpm	: 250	Check tolerance cm3/1000s. : 12.0
guide sleeve travel mm	: 1.26	
Tolerance mm	: +- 0.20	RATED SPEED
	+	
Rated speed rpm guide sleeve	: 1008	control lever
travel mm	: 9.87	position degree : 65.0
Tolerance mm	: <b>←</b> 0.15	tolerance degree : +- 4.0
Damad agas at sos	: 800	control lever
Rated speed rpm guide sleeve	: 000	position degree : 118.0
travel mm	: 6.59	tolerance degree : +- 4.0
Tolerance mm	: + 0.25	rack travel mm : 12.50
Rated speed rpm	: 310	Rated speed rpm : 995
guide sleeve	+	Tolerance 1/min : +- 5
travel mm	: 2.00 + : + 0.25 +	rack travel mm : 4.00
Tolerance mm	· ·- u.25	rack travel mm : 4.00 Rated speed rpm : 1075
Rated speed rpm	: 360	Tolerance 1/min : + 15
guide sleeve	+	0.50
travel mm	: 2.45	rack travel mm : 0.50
Tolerance mm	· - 1 25	Tolerance mm · im C 50
	: +- 0.25	Tolerance mm : +- 0.50 Rated speed rpm : 1150
Rated speed rpm	+	Tolerance mm : +- 0.50 Rated speed rpm : 1150

		Page 200 - 520
LOW IDLE		Pressure hPa : 520 rack travel mm : 7.80 Tolerance mm : + 0.20
control lever position degree tolerance degree		Pressure hPa : 800 rack travel mm : 9.85 Tolerance mm : +- 0.05
control lever position degree		
tolerance degree	: +- 4.0	FUEL DELIVERY CHARACTERISTICS
Testing:		Aneroid pressure hPa : -
Rated speed rpm rack travel mm	: 4.40	Rated speed rpm : 950 Del. quantity
Tolerance mm	: +- 0.10	cm3/1000 strokes : 384.0 Tolerance
Rated speed rpm	: 150	cm3/1000 strokes : +- 4.0 Check tolerance
CRT mm min.	: > 5.40	t cm3/1000s. : ← 6.0
Rated speed rpm	: 325	Aneroid pressure hPa : -
TORQUE CONTROL		Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 189.0
Rated speed rpm rack travel mm		Tolerance - cm3/1000 strokes : +- 1.0
Tolerance mm		+ Check tolerance + cm3/1000s. : +- 4.0
Rated speed rpm rack travel mm Yolerance mm	: 13.50	BREAKAWAY
Rated speed rpm rack travel mm Tolerance mm	: 10.75	Rack travel in mm: 12.50 Rated speed rpm: 995 Tolerance 1/min: +- 5
ANEROID/ALTITUDE COMPENSATOR TEST		
SETTING		LOW IDLE
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 950 : 1500 : 13.50 : + 0.10	Rated speed rpm : 250 rack travel mm : 4.40 Tolerance mm : + 0.30 Del. quantity
MEASUREMENT		cm3/1000 strokes : 16.0
Pressure hPa Rated speed rpm	: - : 950	cm3/1000 strokes : +- 3.0 Check tolerance
rack travel mm Tolerance mm	: 7.00 : +- 0.20	- cm3/1000s. : +- 6.0 - Spreed - Tolerance
Rated speed rpm	: 950	+ cm3/1000 strokes : 4.0

Check tolerance cm3/1000s.	:	8.0	

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 11.09.95 Test oil : ISO 4113

Combination No. : 0 403 466 156

Injection pump

Pump designation : PES6MW100/120RS1238

EP type number : 8 413 406 237

Governor

Governer design. : RSV450...1100MW2A374

Governer no. : 0 420 085 257

Cust. part No. : 3926881

Customer-spec. information

Customer : CDC

Motor : 6 CT-830 Power KW : 160.0

### TEST BENCH REQUIREMENTS

Test oil inlet

temp. °C : 40 Tolerance °C : +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 2.80
Tolerance mm : + 0.05

test only : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.50

Check

tolerance  $^{\circ}NW$  :  $\leftarrow$  0.75

Start of delivery blocking

\*NW after s.o.d. : 9.50

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm: 11.90

Tolerance mm:  $\leftarrow$  0.05

Del. quantity

cm3/1000 strokes : 143.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 4.0

,	•
Spreed	DATEN CREEN
Tolerance + cm3/1000 strokes : 4.0 +	- RATED SPEED
Chibi tood Strokes . 4.0	
Check tolerance	control lever
cm3/1000s. : 7.5	position degree : 104.0
11.57	tolerance degree : +- 4.0
Rated speed rpm : 450	
	rack travel mm : 10.90
Rack travel in mm: 5.30	Rated speed rpm : 1150
Tolerance mm : + 0.30	Tolerance 1/min : +- 5
Del. quantity	•
cm3/1000 strokes : 12.0	rack travel mm : 4.00
Tolerance	Rated speed rpm : 1270
cm $3/1000$ strokes : $\leftarrow$ 2.0	Tolerance 1/min : +- 15
Check tolerance	•
cm3/1000s. : +- 4.5	rack travel mm : 0.85
Spreed	Tolerance mm : + 0.55
Tolerance	Rated speed rpm : 1400
cm3/1000 strokes : 3.5	. and travel on
Check tolerance + cm3/1000s. : 5.5	rack travel mm : 4.00
cm3/1000s. : 5.5	Rated speed rpm : 1225
I	
(B) SETTING OF INJECTION PUMP	LOW IDLE
WITH GOVERNOR	
42 3042	
1	control lever
	position degree : 82.0
GUIDE SLEEVE POSITION	tolerance degree : + 4.0
+	
Rated speed rpm : 800 +	Testing:
†	
Rack travel in mm: 0.65	Rated speed rpm : 450
Tolerance mm : + 0.35	rack travel mm : 5.30
<u> </u>	Tolerance mm : +- 0.10
governor spring	Dated aread non a 100
pre-tension + click setting x : 4.75 +	Rated speed rpm : 100
click setting $x$ : 4.75	CRT mm min. : > 19.50
	(R) min min
FULL LOAD DELIVERY AT FULL LOAD STOP	
-	TORQUE CONTROL
Rated speed rpm : 1100	
Aneroid pressure +	Rated speed rpm : 1100
hPa : 1100 +	rack travel mm : 11.90
Del. quantity +	Tolerance mm : $\leftarrow$ 0.05
cm3/1000 strokes : 143.0 +	
Tolerance	Rated speed rpm : 750
cm3/1000 strokes : + 1.0 +	rack travel mm : 12.40
Check tolerance	Tolerance mm : ← 0.10
cm3/1000s. : + 4.0	
Spreed	ANIEDOTO / AL TITUDE
Tolerance + cm3/1000 strokes : 4.0 +	ANEROID/ALTITUDE COMPENSATOR TEST
Check tolerance	SUMPERSMIUM TEST
CM3/11/11/15	
cm3/1000s. : 7.5	SETTING
cms/1000s. : 7.5	SETTING

Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 1100 : 12.45 : ← 0.05
MEASUREMENT	
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 500 : 10.50 : + 0.05
Rated speed rpm	: 500
Pressure hPa rack travel mm Tolerance mm	: 850 : 12.00 : ← 0.20
Pressure hPa rack travel mm Tolerance mm	: 625 : 11.00 : +- 0.10
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s.  Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 1100 : 750
BREAKAWAY	
Rack travel in mm Rated speed rpm Tolerance 1/min	: 10.90 : 1150 : + 5

# STARTING FUEL DELIVERY Rated speed rpm : 100 rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 170.0 Tolerance cm3/1000 strokes : + 10.0 Check tolerance cm3/1000s. : + 13.0 LOW IDLE Rated speed rpm : 450 rack travel mm : 5.30 Tolerance mm : + 0.30 Del. quantity

End of test specification sheet

cm3/1000 strokes : 12.0

cm3/1000 strokes : +- 2.0

cm3/1000 strokes :

: +- 4.5

•

3.5

5.5

Tolerance

Spreed Tolerance

Check tolerance cm3/1000s.

Check tolerance cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 11.89.95 Test oil : ISO 4113

Combination No. : 0 403 466 168

Injection pump

Pump designation : PES6MW100/120RS1238

EP type number : 0 413 406 237

Governor

Governer design. : RSV450...1000MW2A389

Governer no. : C 420 085 269

Cust. part No. : 3929167

Customer-spec. information

Customer : CDC

Motor : 6 CT-830 Power KW : 134.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : + 1.0

Prestroke mm : 2.80 Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance :  $\leftarrow$  0.50

Check

tolerance  $^{\circ}NW$  : +- 0.75

Start of delivery blocking

\*NW after s.o.d. : 9.50

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 11.60 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 126.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance : + 4.0	Check tolerance cm3/1000s. : 7.5
	RATED SPEED
Spreed Tolerance cm3/1000 strokes : 4.0	
Check tolerance cm3/1000s. : 7.5	<pre>control lever position degree : 99.0 tolerance degree : +- 4.0</pre>
Rated speed rpm : 450	rack travel mm : 10.60 Rated speed rpm : 1050
Rack travel in mm: 6.50 Tolerance mm: + 0.30	Tolerance 1/min : + 5
Del. quantity + cm3/1000 strokes : 28.0 + Tolerance +	rack travel mm : 4.00 Rated speed rpm : 1155 Tolerance 1/min : +- 15
cm3/1000 strokes : +- 2.0 +- Check tolerance	rack travel mm : 0.85
cm3/1000s. : +- 4.5	Tolerance mm : + 0.55 Rated speed rpm : 1300
Tolerance + cm3/1000 strokes : 3.5 + Check tolerance + cm3/1000 strokes : 5.5 + cm3/1000 strokes	rack travel mm : 4.00 Rated speed rpm : 1165
cm3/1000s. : 5.5	LOW TOLE
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	LOW IDLE
<del></del>	position degree : 82.0 tolerance degree : +- 4.0
GUIDE SLEEVE POSITION +	Testing:
Rated speed rpm : 800	Rated speed rpm : 450
Rack travel in mm : 0.65 Tolerance mm : ← 0.35	rack travel mm : 6.50 Tolerance mm : +- 0.10
governor spring pre-tension	Rated speed rpm : 100
click setting x : 3.75	CRT mm min. :> 19.00
FULL LOAD DELIVERY AT FULL LOAD STOP	TORQUE CONTROL
Rated speed rpm : 1000 Aneroid pressure	Rated speed rpm : 1000 rack travel mm : 11.60
hPa : 1000 + Del. quantity +	Tolerance mm : + 0.05
cm3/1000 strokes : 126.0 + Tolerance +	Rated speed rpm : 750 rack travel mm : 12.40
cm3/1000 strokes : +- 1.0	Tolerance mm : +- 0.10
cm3/1000s. : +- 4.0 + 5	ANEROID/ALTITUDE COMPENSATOR TEST
cm3/1000 strokes : 4.0	

### SETTING

Rated speed rpm	:	500
Pressure hPa	:	1000
rack travel mm	:	12.40
Tolerance mm	:	+- 0.10

### **MEASUREMENT**

Pressure hPa	:		
Rated speed rpm	:		500
rack travel mm	:		11.40
Tolerance mm	:	+	0.05

Rated	speed	rpm	:	500
-------	-------	-----	---	-----

Pressure hPa	:	650
rack travel mm	:	12.10
Tolerance mm	: +	- 0.15

Pressure hPa	:	550
rack travel mm	:	11.70
Tolerance mm	: +	- 0.10

# FUEL DELIVERY CHARACTERISTICS

Aneroid	pressure
. ~	

hPa	:	1000
Rated speed rpm	:	750
Del. quantity		
cm3/1000 strokes	:	140.0
Tolerance		
cm3/1000 strokes	: +-	- 2.0

Charle del sanas	-	
Check tolerance		
cm3/1000S.	: +-	5.0
Spreed		

Tolerance cm3/1000 strokes :

6.0 Check tolerance 9.0 cm3/1000s.

Aneroid pressure

hPa Rated speed rpm 500 Del. quantity

cm3/1000 strokes : 118.0 Tolerance

cm3/1000 strokes : +-Check tolerance cm3/1000s. 4.0

#### BREAKAWAY

Rack travel in mm : 10.60 Rated speed rpm : 1050 Tolerance 1/min : +-

# STARTING FUEL DELIVERY

Rated speed rpm rack travel mm	:	100 20.00
Tolerance mm	: +	- 1.00
Del. quantity cm3/1000 strokes	:	170.0
Tolerance cm3/1000 strokes	: +	- 10.0
Check tolerance	•	,0.0
cm3/1000s.	: +	- 13.0

#### LOW IDLE

Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance	: 450 : 6.50 : + 0.30 : 28.0 : + 2.0 : + 4.5
Spreed	: 4.5 : 3.5 : 5.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 29.05.95 Edition Test oil : ISO 4113

Combination No. : 0 400 836 018

Injection pump

Pump designation : PES6A80D410/3RS2527 EP type number : 0 410 886 059

Governor

Governer design. : RQ275/1400AB798DL Governer no. : 0 420 202 239

Cust. part No. :

Customer-spec. information : KHD Customer Motor : F6L912

Power KW : 88.3

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 : +- 2.0 Tolerance °C

Overflow valve : 1 417 413 000

Inlet press. bar : 1.0

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

: 173.5 Tolerance bar : +- 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0 600 x length mm

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

: 1-5-3-6-2-Firing order

: 4

: 0-60-120-180-240 Phasing

: -300 : + 0.50 Tolerance

Check

tolerance °NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm : 11.65 : +- 0.05 Tolerance mm

Del. quantity cm3/1000 strokes : 65.5

Tolerance

cm3/1000 strokes : +- 0.5

Check tolerance : +-

cm3/1000s. 2.0

Spreed

Tolerance

cm3/1000 strokes :

2.0

Check tolerance

cm3/1000s. 3.5

Rated speed rpm : 275

Rack travel in mm : 5.45

Tolerance mm: + 0.10

Del. quantity cm3/1000 strokes : 12.0	Tanting
	† Testing:
Tolerance cm3/1000 strokes : + 3.0	Data danced annu a 275
	Rated speed rpm : 275 rack travel mm : 5.45
Check tolerance	+ rack travel mm : 5.45 + Tolerance mm : + 0.05
cm3/1000s. : +- 4.5	† loterance mm ; + U.US
Spreed	2.00
Tolerance	rack travel mm : 2.00
cm3/1000 strokes : 2.5	+ Rated speed rpm : 450
Check tolerance	+ Tolerance 1/min : +- 20
cm3/1000s. : 4.0	Rated speed rpm : 100
(B) SETTING OF INJECTION PUMP	+ CRT mm min. :> 7.00
WITH GOVERNOR	Rated speed rpm : 600
	+
GUIDE SLEEVE POSITION	+ CRT man max. : < 1.00
Dated aread are 450	TOROUT CONTROL
Rated speed rpm : 650	+ TORQUE CONTROL
Rack travel in mm: 16.00	Dimension a mm : 0.65
Tolerance mm : + 0.40	Rated speed rpm : 1400
	+ rack travel mm : 11.65
	+ Tolerance mm   : ← 0.05
FULL LOAD DELIVERY AT FULL LOAD STOP	+
	Rated speed rpm : 650
Rated speed rpm : 1400	rack travel mm : 13.10
Aneroid pressure	Tolerance mm : + 0.10
hPa : -	† a
Del. quantity	+ Rated speed rpm : 810
cm3/1000 strokes : 65.5	+ rack travel mm : 12.70 + Tolerance mm : +- 0.10
Tolerance	Tolerance mm : +- 0.10
cm3/1000 strokes : + 0.5	Catad around non a 1015
Check tolerance cm3/1000s. : +- 2.0	Rated speed rpm : 1015
Spreed	rack travel mm : 11.95 Tolerance mm : + 0.15
Spreed Tolerance	1 Toterance man . += U.15
cm3/1000 strokes : 2.0	I
Check tolerance	I
cm3/1000s. : 3.5	
	BREAKAWAY
RATED SPEED	1
rack travel mm : 10.60	Rack travel in mm: 10.60
Rated speed rpm : 1453	Rated speed rpm : 1453
Tolerance 1/min : +- 8	+ Tolerance 1/min : + 8
	+
rack travel mm : 4.00	+
Rated speed rpm : 1550	
Tolerance 1/min : +- 15	+ STARTING FUEL DELIVERY
rack travel mm : 0.50	+ Rated speed rpm : 100
Tolerance mm : +- 0.50	rack travel mm : 17.30
Rated speed rpm : 1650	Tolerance mm : +- 0.30
nated opeca (pin ) 1000	Del. quantity
	cm3/1000 strokes : 105.0
LOW IDLE	+
<del></del>	•

Tolerance cm3/1000 strokes : +- 5.0 Check tolerance cm3/1000s. : +- 8.0

LOW IDLE

Rated speed rpm : 275 5.45 rack travel mm : Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 12.0 Tolerance cm3/1000 strokes : +- 3.0Check tolerance cm3/1000s. 4.5 Spreed Tolerance cm3/1000 strokes : 2.5 Check tolerance cm3/1000s. 4.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 13.09.95 Test oil : ISO 4113

Combination No. : 0 402 736 885

Injection pump

Pump designation : PES6P12OA12ORS7370 EP type number : 0 412 726 934

Governor

Governer design. : RQV400...1250PA1212K

Governer no. : 0 421 815 462

Cust. part No. : 3929688

Customer-spec. information Customer : CDC Motor : 6BTA-A Power KW : 131.0

#### TEST BENCH REQUIREMENTS

inlet line : 3.2

Test oil inlet

temp.  $^{\circ}$ C : 40 Tolerance  $^{\circ}$ C : + 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 2.0
Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 103

Opening pressure

bar : 208.5 Tolerance bar : +- 1.5

Test Lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : +- 1.0

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.50

Check

tolerance \*NW : + 0.75

Start of delivery blocking

\*NW after s.o.d. : 6.50 Tolerance : + 0.50

Check

tolerance \*NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm: 13.85

Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 170.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s. : +- 4.0

Spreed

Tolerance cm3/1000 strokes	: 8.0	Check tolerance cm3/1000s.	: 12.0
Check tolerance cm3/1000s.	: 12.0	RATED SPEED	
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	+	control lever position degree tolerance degree	
cm3/1000s. Spreed Tolerance	: <b>←</b> 5.0	rack travel mm Rated speed rpm Tolerance 1/min	: 1330
cm3/1000 strokes Check tolerance	: 4.0	rack travel mm	: 4.90
cm3/1000s.	: 8.0	Rated speed rpm Tolerance 1/min	
(B) SETTING OF IN WITH GOVERNOR	NJECTION PUMP	rack travel <b>mm</b> Tolerance <b>mm</b> Rated speed rpm	
GUIDE SLEEVE TRAV	/EL +	LOW IDLE	
Rated speed rpm guide sleeve	<del> </del>		
travel mm Tolerance mm	: 1.56 : + 0.20	control lever position degree tolerance degree	
Rated speed rpm guide sleeve travel mm	: 1412	Testing:	
Tolerance mm	: + 0.15	Rated speed rpm rack travel mm	: 6.20
Rated speed rpm guide sleeve travel mm	: 1020	Tolerance mm  Rated speed rpm	
Tolerance mm	: + 0.25	CRT mn min.	
Rated speed rpm guide sleeve	: 2000	Rated speed rpm	
travel mm Tolerance mm	: 13.50 : + 0.50		
	<u> </u>	TORQUE CONTROL	
	Y AT FULL LOAD STOP	Rated speed rpm rack travel mm Tolerance mm	: 1250 : 13.85 : +- 0.05
Rated speed rpm Aneroid pressure hPa	: 1200	Rated speed rpm	: 800
Del. quantity cm3/1000 strokes	+	rack travel mm Tolerance mm	: 11.80 : + 0.10
Tolerance cm3/1000 strokes Check tolerance	: + 1.0	Rated speed rpm rack travel mm	
cm3/1000s. Spreed Tolerance	: +- 4.0	Tolerance man	
cm3/1000 strokes	: 8.0		

ANEROID/ALTITUDE COMPENSATOR TEST	m Addinish ndukang salam saman darih m alau ari hayan sa saman salam sa ar
SETTING	
Rated speed rpm Pressure hPa	: 1250 : 1200
MEASUREMENT	
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 1250 : 9.40 : +- 0.20
Rated speed rpm	: 1250
Pressure hPa rack travel mm Tolerance mm	: 440 : 12.55 : ← 0.30
Pressure hPa rack travel mm Tolerance mm	: 265 : 10.80 : ← 0.20
START CUT-OUT	
Rated speed rpm Check	: < 315
speed 1/min	: < 325
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure	
hPa Rated speed rpm Del. quantity	: 1200 : 800
cm3/1000 strokes Tolerance	: 123.5
cm3/1000 strokes Check tolerance	: +- 3.0
cm3/1000s. Spreed	: <b>←</b> 6.0
Tolerance cm3/1000 strokes	: 8.0
Check tolerance cm3/1000s.	: 12.0
Aneroid pressure	
Rated speed rpm Del. quantity	1250
cm3/1000 strokes Tolerance	: 96.0

cm3/1000s. : +- 4.0 BREAKAWAY Rack travel in mm : 12.80 Rated speed rpm : 1330
Tolerance 1/min : + 15 STARTING FUEL DELIVERY Rated speed rpm : 100 rack travel mm : 11.70 Tolerance mm : +- 0.50 Del. quantity cm3/1000 strokes : 157.0 Tolerance cm3/1000 strokes : +- 20.0Check tolerance cm3/1000s. : +- 25.0 LOW IDLE Del. quantity cm3/1000 strokes : 19.5 Tolerance cm3/1000 strokes :  $\leftarrow$  3.0 Check tolerance cm3/1000s. : +- 5.0 Spreed Tolerance cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. : 8.0 End of test specification sheet

Check tolerance

cm3/1000 strokes :  $\leftarrow$  1.0

Note remarks

Refer to Service Info for test and adjustment instructions.

See microcard(s) W400/...

: 29.09.95 Edition : ISO 4113 Test oil

Combination No. : 0 401 446 150

Injection pump

Pump designation : PE6R130/720RS1506 EP type number : 0 411 436 002

Governor

Governer design. : RQV250...1050R4K Governer no. : 0 421 415 003

Cust. part No. : 865 020 P02 v. 08/94

Customer-spec, information Customer : PENTA

Motor : TAMD163 P-A

Power KW : 553.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Vibration | damper

(RoBo diaphragm): 3.1

Test oil inlet

temp. °C 40 Tolerance \*C

: 2 417 413 078 Overflow valve

2.5 Inlet press. bar : : +- 0.1 Tolerance bar

Test nozzie holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 bar Tolerance bar : + 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 4,45 Tolerance mm : + 0.05

test only :  $\leftarrow$  0.10

Rack travel in mm: 10.50 Tolerance mm : +- 0.50

: 1-5- 3- 6- 2-Firing order

: 4

: 0-60-120-180-240 Phasing

: -300 Tolerance : +- 0.30

Check

tolerance °NW : +- 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm: 14.40 Tolerance mn:  $\leftarrow 0.05$ 

Del. quantity

cm3/1000 strokes : 450.0

Tolerance		1
cm3/1000 strokes	: +- 2.0	Rated speed rpm : 570
		guide sleeve
Check tolerance		travel mm : 3.54
cm3/1000s.	: +- 5.0	† Tolerance mm : + 0.25
Spreed		Rated speed rpm : 1360
Tolerance		guide steeve
cm3/1000 strokes	: 13.0	travel mm : 13.50
		Tolerance mm : + 0.50
Check tolerance		+
cm3/1000S.	: 17.0	CHAR OF CHEME BOOTTON
Rated speed rpm	: 250	GUIDE SLEEVE POSITION
nated speed thin	. 250	Rated speed rpm : 1205
Rack travel in m	n: 6.65	
Tolerance mm	: +- 0.30	Rack travel in mm: 11.00
Del. quantity	45.4	+ Tolerance mm : +- 2.50
cm3/1000 strokes	: 95.0	†
Tolerance cm3/1000 strokes	: +- 4.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance	4.0	TOLL LOAD VELIVERY AT FOLL LOAD STOP
cm3/1000s.	: <b>←</b> 7.0	Rated speed rpm : 1050
Spreed		Aneroid pressure
Tolerance	44.0	+ hPa : 2200
cm3/1000 strokes Check tolerance	: 11.0	+ Del. quantity + cm3/1000 strokes : 450.0
cm3/1000s.	: 15.0	Tolerance 430.0
	. ,3.0	+ cm3/1000 strokes : + 2.0
		+ Check tolerance
(B) SETTING OF IN	NJECTION PUMP	+ cm3/1000s. : +- 5.0
(B) SETTING OF IN WITH GOVERNOR	JECTION PUMP	+ cm3/1000s. : +- 5.0 + Spreed
	NJECTION PUMP	- cm3/1000s. : +- 5.0 - Spreed - Tolerance
WITH GOVERNOR		- cm3/1000s. : +- 5.0 + Spreed + Tolerance - cm3/1000 strokes : 13.0
		- cm3/1000s. : +- 5.0 - Spreed - Tolerance
GUIDE SLEEVE TRAV	/EL	cm3/1000s. : +- 5.0  Spreed  Tolerance  cm3/1000 strokes : 13.0  Check tolerance
GUIDE SLEEVE TRAV Rated speed rpm guide sleeve	/EL : 250	cm3/1000s. : +- 5.0  Spreed  Tolerance cm3/1000 strokes : 13.0 Check tolerance cm3/1000s. : 17.0
GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm	/EL : 250 : 1.26	cm3/1000s. : +- 5.0  Spreed  Tolerance  cm3/1000 strokes : 13.0  Check tolerance
GUIDE SLEEVE TRAV Rated speed rpm guide sleeve	/EL : 250	cm3/1000s. : +- 5.0  Spreed  Tolerance cm3/1000 strokes : 13.0 Check tolerance cm3/1000s. : 17.0
GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm	/EL : 250 : 1.26 : ← 0.25	cm3/1000s. : +- 5.0  Spreed  Tolerance cm3/1000 strokes : 13.0 Check tolerance cm3/1000s. : 17.0
GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve	EL  : 250  : 1.26 :	cm3/1000s. : +- 5.0  Spreed Tolerance cm3/1000 strokes : 13.0 Check tolerance cm3/1000s. : 17.0  RATED SPEED  control lever position degree : 65.0
GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm	/EL : 250 : 1.26 : → 0.25 : 1106 : 9.18	cm3/1000s. : +- 5.0  Spreed Tolerance cm3/1000 strokes : 13.0 Check tolerance cm3/1000s. : 17.0  RATED SPEED  control lever
GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve	EL  : 250  : 1.26 :	cm3/1000s. : +- 5.0 Spreed Tolerance cm3/1000 strokes : 13.0 Check tolerance cm3/1000s. : 17.0  RATED SPEED  control lever position degree : 65.0 tolerance degree : +- 4.0
GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	EL  : 250  : 1.26 : → 0.25  : 1106  : 9.18 : + 0.25	cm3/1000s. : +- 5.0  Spreed Tolerance cm3/1000 strokes : 13.0 Check tolerance cm3/1000s. : 17.0  RATED SPEED  control lever position degree : 65.0 tolerance degree : +- 4.0  control lever
GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm Guide sleeve travel mm Tolerance mm	/EL : 250 : 1.26 : → 0.25 : 1106 : 9.18	cm3/1000s. : +- 5.0  Spreed Tolerance cm3/1000 strokes : 13.0 Check tolerance cm3/1000s. : 17.0  RATED SPEED  control lever position degree : 65.0 tolerance degree : +- 4.0  control lever position degree : 119.0
GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	#EL  : 250  : 1.26 : → 0.25  : 1106  : 9.18 : → 0.25  : 895  : 6.42	cm3/1000s. : + 5.0  Spreed Tolerance cm3/1000 strokes : 13.0 Check tolerance cm3/1000s. : 17.0  RATED SPEED  control lever position degree : 65.0 tolerance degree : + 4.0  control lever position degree : 119.0 tolerance degree : + 4.0
GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	#EL  : 250  : 1.26 : → 0.25  : 1106  : 9.18 : → 0.25  : 895	cm3/1000s. : +- 5.0  Spreed Tolerance cm3/1000 strokes : 13.0 Check tolerance cm3/1000s. : 17.0  RATED SPEED  control lever position degree : 65.0 tolerance degree : +- 4.0  control lever position degree : 119.0 tolerance degree : +- 4.0  rack travel mm : 13.40
GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	EL  : 250  : 1.26 : → 0.25 : 1106 : 9.18 : + 0.25 : 895 : 6.42 : + 0.25	cm3/1000s. : +- 5.0  Spreed Tolerance cm3/1000 strokes : 13.0 Check tolerance cm3/1000s. : 17.0  RATED SPEED  control lever position degree : 65.0 tolerance degree : +- 4.0  control lever position degree : 119.0 tolerance degree : +- 4.0  rack travel mm : 13.40 Rated speed rpm : 1105
GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	#EL  : 250  : 1.26 : → 0.25  : 1106  : 9.18 : → 0.25  : 895  : 6.42	cm3/1000s. : +- 5.0  Spreed Tolerance cm3/1000 strokes : 13.0 Check tolerance cm3/1000s. : 17.0  RATED SPEED  control lever position degree : 65.0 tolerance degree : +- 4.0  control lever position degree : 119.0 tolerance degree : +- 4.0  rack travel mm : 13.40
GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	#EL  : 250  : 1.26 : → 0.25 : 1106 : 9.18 : → 0.25 : 895 : 6.42 : → 0.25 : 310	cm3/1000s. : + 5.0  Spreed Tolerance cm3/1000 strokes : 13.0 Check tolerance cm3/1000s. : 17.0  RATED SPEED  control lever position degree : 65.0 tolerance degree : + 4.0  control lever position degree : 119.0 tolerance degree : + 4.0  rack travel mm : 13.40 Rated speed rpm : 1105 Tolerance 1/min : + 5
GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	EL  : 250  : 1.26 : → 0.25 : 1106 : 9.18 : + 0.25 : 895 : 6.42 : + 0.25	cm3/1000s. : +- 5.0  Spreed Tolerance cm3/1000 strokes : 13.0 Check tolerance cm3/1000s. : 17.0  RATED SPEED  control lever position degree : 65.0 tolerance degree : +- 4.0  control lever position degree : 119.0 tolerance degree : +- 4.0  rack travel mm : 13.40 Rated speed rpm : 1105
GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	## 250  ## 1.26  ## 0.25  ## 106  ## 9.18  ## 0.25  ## 895  ## 6.42  ## 0.25  ## 310  ## 2.00  ## 2.00  ## 0.25	cm3/1000s. : + 5.0  Spreed Tolerance cm3/1000 strokes : 13.0 Check tolerance cm3/1000s. : 17.0  RATED SPEED  control lever position degree : 65.0 tolerance degree : + 4.0  control lever position degree : 119.0 tolerance degree : + 4.0  rack travel mm : 13.40 Rated speed rpm : 1105 Tolerance 1/min : + 5
GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	### 250  1.26  1.26  1.26  1.106  1.25  1.26  1.25  1.26  1.25  1.26  1.25  1.26  1.26  1.26  1.26  1.26  1.26  1.26  1.26  1.25  1.26  1.26  1.26  1.25  1.26  1	cm3/1000s. : +- 5.0  Spreed  Tolerance cm3/1000 strokes : 13.0 Check tolerance cm3/1000s. : 17.0  RATED SPEED   control lever position degree : 65.0 tolerance degree : +- 4.0  control lever position degree : 119.0 tolerance degree : +- 4.0  rack travel mm : 13.40 Rated speed rpm : 1105 Tolerance 1/min : +- 5  rack travel mm : 4.00 Rated speed rpm : 1200 Tolerance 1/min : +- 15
GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve	### 250  ### 1.26  ### 1.26  ### 1.25  ### 1.26  ### 1.25  ### 1.25  #### 1.25  #### 1.26  ###################################	cm3/1000s. : +- 5.0  Spreed  Tolerance cm3/1000 strokes : 13.0 Check tolerance cm3/1000s. : 17.0  RATED SPEED   control lever position degree : 65.0 tolerance degree : +- 4.0  control lever position degree : 119.0 tolerance degree : +- 4.0  rack travel mm : 13.40 Rated speed rpm : 1105 Tolerance 1/min : +- 5  rack travel mm : 4.00 Rated speed rpm : 1200 Tolerance 1/min : +- 15  rack travel mm : 0.50
GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	## 250  ## 1.26  ## 0.25  ## 106  ## 9.18  ## 0.25  ## 895  ## 6.42  ## 0.25  ## 310  ## 2.00  ## 2.00  ## 0.25	cm3/1000s. : +- 5.0  Spreed  Tolerance cm3/1000 strokes : 13.0 Check tolerance cm3/1000s. : 17.0  RATED SPEED   control lever position degree : 65.0 tolerance degree : +- 4.0  control lever position degree : 119.0 tolerance degree : +- 4.0  rack travel mm : 13.40 Rated speed rpm : 1105 Tolerance 1/min : +- 5  rack travel mm : 4.00 Rated speed rpm : 1200 Tolerance 1/min : +- 15

		+		
LOW IDLE	481	+	Pressure hPa rack travel mm Tolerance mm	: 1580 : 5.10 : + 0.10
control lever position degree tolerance degree control lever		<del></del>	Pressure hPa rack travel mm Tolerance mm	: 400 : 0.25 : + 0.05
position degree tolerance degree		<del></del>	FUEL DELIVERY CHA	RACTERISTICS
Testing:		<u> </u>	Aneroid pressure	: 2200
Rated speed rpm rack travel mm Tolerance mm	: 6.65	+	Rated speed rpm Del. quantity cm3/1000 strokes	: 850
Rated speed rpm	: 150	†	Tolerance cm3/1000 strokes	: +- 4.0
CRT mm min.	: > 7.70	‡	Check tolerance cm3/1000S. Spreed	: ÷ 7.0
Rated speed rpm	: 380	+	Tolerance cm3/1000 strokes	: 15.0
TORQUE CONTROL		<u> </u>	Check tolerance cm3/1000s.	: 19.0
Rated speed rpm rack travel mm Tolerance mm	: 14.40	† † †	Aneroid pressure hPa Rated speed rpm Del. quantity	: - : 500
Rated speed rpm rack travel mm Tolerance mm	: 850 : 13.20 : +- 0.15	+++++++++++++++++++++++++++++++++++++++	cm3/1000 strokes Tolerance cm3/1000 strokes	
Rated speed rpm rack travel mm Tolerance mm	: 975 : 14.30 : +- 0.20	†	Check tolerance cm3/1000s.	: ← 5.0
			BREAKAWAY	
ANEROID/ALTITUDE COMPENSATOR TEST		+	Rack travel in mm Rated speed rpm Tolerance 1/min	: 1105
SETTING		+		
Rated speed rpm Pressure hPa rack travel mm	: 1050 : 2200 : 14.40	+	STARTING FUEL DEL	IVERY
Tolerance mm	: + 0.05	+	Rated speed rpm rack travel mm	: 100 : 13.10
MEASUREMENT Pressure hPa	:	‡	Tolerance mm Del. quantity cm3/1000 strokes	: + 0.30 : 385.0
Rated speed rpm rack travel mm Tolerance mm	500 8.70 + 0.15	+	Tolerance cm3/1000 strokes Check tolerance	
Rated speed rpm		‡	cm3/1000s.	: +- 25.0

# LOW IDLE

Rated speed rpm rack travel mm Tolerance mm Del. quantity	: +	250 6.65 0.30	
cm3/1000 strokes	:	95.0	
Tolerance cm3/1000 strokes	: +-	4.0	
Check tolerance cm3/1000s.	: +-	7.0	
Spreed			
Tolerance cm3/1000 strokes	:	11.0	
Check tolerance cm3/1000s.	:	15.0	

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 21.09.95 Test oil : ISO 4113

Combination No. : 0 401 848 829

### Injection pump

Pump designation : PE8P110A320LS3865 EP type number : 0 411 818 728

Governor

Governer design. : RQ250/1150PA1250 Governer no. : 0 421 801 796

Cust. part No.

Customer-spec. information Customer : DAEWOO Motor : V2-8NA

#### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp.  $^{\circ}$ C : 40 Tolerance  $^{\circ}$ C :  $\leftarrow$  2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x Length mm : 600

#### REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values \_\_\_\_\_

# BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.00 Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 10.50 Tolerance mm : ← 1.50

Firing order : 8-7-2-6-3

Phasing : 0-45-90-135-180 : -225-270-315

Tolerance : + 0.30

Check

tolerance "NW : +- 0.50

Start of delivery mark

Barrel no. : 8

### BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm: 11.80
Tolerance mm: + 0.05

Del. quantity cm3/1000 strokes : 126.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance cm3/1000s. : +- 4.0

Canacal		
Spreed Tolerance	Ť	GUIDE SLEEVE POSITION
cm3/1000 strokes	: 6.0	GOIDE SEEENE POSTITON
CHO/ 1000 Strokes	·	Rated speed rpm : 700
Check tolerance		Nated Speed Ppill . 100
	: 10.0	Rack travel in mm : 15.50
	1	Tolerance mm : +- 1.30
Rated speed rpm :	250	
	1	
Rack travel in mm :	: 8.10 +	FULL LOAD DELIVERY AT FULL LOAD STOP
Tolerance mm	: + 0.30 +	
Del. quantity	+	Rated speed rpm : 1150
cm3/1000 strokes	: 25.0 +	Aneroid pressure
Tolerance	+	hPa : -
cm3/1000 strokes	: +- 3.0 +	Del. quantity
Check tolerance		cm3/1000 strokes : 126.0
cm3/1000s.	: ← 6.0 +	Tolerance
Spreed	†	cm3/1000 strokes : +- 1.0
Tolerance cm3/1000 strokes :	. 40	Check tolerance cm3/1000s. : +- 4.0
Check tolerance	. o.u	Spreed : 7- 4.0
	: 10.0	Tolerance
CHO 10003.	· 10.5	cm3/1000 strokes : 6.0
	$\downarrow$	Check tolerance
(B) SETTING OF INJE	ECTTON PUMP	cm3/1000s. : 10.0
WITH GOVERNOR	1	
	1	
	<del></del>	RATED SPEED
GUIDE SLEEVE TRAVEL	_ +	
	+	
Rated speed rpm :	: 250 +	control lever
guide steeve	+	position degree : 36.0
travel mm :	1.59	tolerance degree : +- 4.0
Tolerance mm :	+ 0.20	
Board and all man	1705	control lever
· · · · · · · · · · · · · · · · · · ·	1205	position degree : 98.0
guide sleeve travel mm :	7.34	tolerance degree : +- 4.0
	+ 0.15 T	rack travel mm : 10.80
rocerance may	1	Rated speed rpm : 1203
Rated speed rpm :	1150	Tolerance 1/min : +- 5
guide sleeve	1	The second secon
travel mm :	7.00	rack travel mm : 4.00
Tolerance mm :	+ 0.10 +	Rated speed rpm : 1260
	+	Tolerance 1/min : +- 15
Rated speed rpm :	414	
guide steeve	+	rack travel mm : 0.50
travel mm :	5.47	Tolerance mm : + 0.50
Tolerance mm :	+- 0.10 +	Rated speed rpm : 1350
Dawad cara-4	510	
Rated speed rom :	510	I OU TOLE
guide sleeve	7.00	LOW IDLE
travel mm :		
Tolerance mm :	+ 0.10	control lever
Rated speed rpm :	1340 <del>I</del>	position degree : 77.0
guide sleeve	1370	tolerance degree : +- 4.0
travel mm :	11.50	22 (2) (a) (b) (a) (b) (b) (b) (b) (b) (b) (b) (b) (b) (b
Tolerance mm :	+ 0.50	
, a so to to the the	,	

control lever position degree tolerance degree Testing:	: 14.0 : + 4.0
resening.	
Rated speed rpm rack travel mm Tolerance mm	: 250 : 8.10 : ← 0.10
rack travel mm Rated speed rpm Tolerance 1/min	: 2.00 : 400 : + 20
Rated speed rpm	: 150
CRT mm min.	: > 9.90
TORQUE CONTROL	
Rated speed rpm rack travel mm Tolerance mm	: 1150 : 11.80 : + 0.05
Rated speed rpm rack travel mm Tolerance mm	: 650 : 11.80 : ← 0.10
START CUT-OUT	
Rated speed rpm	: < 170
	: < 170 : < 190
Rated speed rpm Check	: < 190
Rated speed rpm Check speed 1/min	: < 190
Rated speed rpm Check speed 1/min  FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm	: < 190
Rated speed rpm Check speed 1/min  FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity	: < 190  RACTERISTICS  : - : 650
Rated speed rpm Check speed 1/min  FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes	: < 190  RACTERISTICS  : -
Rated speed rpm Check speed 1/min  FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: < 190  RACTERISTICS  : - : 650
Rated speed rpm Check speed 1/min  FUEL DELIVERY CHA  Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: < 190  RACTERISTICS  : - : 650 : 127.0 : + 3.0
Rated speed rpm Check speed 1/min  FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: < 190  RACTERISTICS  : - : 650 : 127.0
Rated speed rpm Check speed 1/min  FUEL DELIVERY CHA  Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: < 190  RACTERISTICS  : - : 650 : 127.0 : + 3.0

STARTING FUEL DEL	.IVER	Y	
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: +	100 135.0 - 20.0 - 24.0	
LOW IDLE Rated speed rpm	•	250	<del></del>

rack travel mm 8.10 : +- 0.30 Tolerance mm Del. quantity cm3/1000 strokes : 25.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. 6.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. 10.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 28.09.95 Test oil : ISO 4113

Combination No. : 0 401 876 789

Injection pump

Pump designation : PE6P12OA32ORS3189 EP type number : 0 411 826 759

Governor

Governer design. : RSV650...750P4A421

: -13

Governer no. : 0 421 833 466

Cust. part No. : 864818 PO4 v. 12/95

Customer—spec. information Customer : PENTA Motor : TD710G

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration

damper

(RoBo diaphragm) : 4.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 457 413 010

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity

min. l/h : 195 Tolerance l/h : + 10.0

Test nozzle holde

assembly : 1 688 901 019

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 2.65 Tolerance mm : +- 0.05

test only : + 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-5- 3- 6- 2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.30

Check

tolerance \*NW : + 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm: 9.00

Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes : 180.0	Check tolerance cm3/1000s. : +- 4.0 Spreed
Tolerance cm3/1000 strokes : + 1.0	Tolerance cm3/1000 strokes : 5.0 Check tolerance
Check tolerance cm3/1000s. : +- 4.0	cm3/1000s. : 9.0
Spreed	RATED SPEED
Tolerance + cm3/1000 strokes : 5.0 +	control lever
Check tolerance cm3/1000s. : 9.0	position degree : 92.0 tolerance degree : +- 4.0
Rated speed rpm : 650	rack travel mm : 8.00 Rated speed rpm : 753
Rack travel in mm : 3.20 † Tolerance mm : + 0.20 †	Tolerance 1/min : +- 3
Del. quantity	rack travel mm : 4.00
cm3/1000 strokes : 22.0	Rated speed rpm : 779
Tolerance + 3.0 +	Tolerance 1/min : +- 7
Check tolerance +	rack travel mm : 0.85
cm3/1000s. : + 5.0	Tolerance mm : +- 0.55 Rated speed rpm : 900
Spreed + Tolerance +	Rated speed rpm : 900
cm3/1000 strokes : 5.0	
Check tolerance	LOW IDLE
cm3/1000s. : 7.0 +	
<b>↓</b>	control lever
(B) SETTING OF INJECTION PUMP	position degree : 86.0
WITH GOVERNOR	tolerance degree : + 4.0
	Testing:
GUIDE SLEEVE POSITION	Rated speed rpm : 650
+	rack travel mm : 3.20
Rated speed rpm : 800	Tolerance mm : $\leftarrow$ 0.10
Rack travel in mm: 0.50	rack travel mm : 2.00
Tolerance mm : + 0.20 +	Rated speed rpm : 660
governor spring +	Tolerance 1/min : + 30
pre-tension	SET IDLE AUXILIARY SPRING
click setting x : 4.50	
	rack travel mm : 2.00
FULL LOAD DELIVERY AT FULL LOAD STOP	
	TORQUE CONTROL
Rated speed rpm : 700 + Aneroid pressure	Rated speed rpm : 700
hPa : -	rack travel mm : 9.00
Del. quantity	Tolerance mm : + 0.05
cm3/1000 strokes : 180.0 +	
cm3/1000 strokes : +- 1.0	

## BREAKAWAY

Rack travel in mm: 8.00 Rated speed rpm: 753 Tolerance 1/min: +- 3

# STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : +-0.50

# LOW IDLE

Rated speed rpm 650 rack travel mm 3.20 : **←** 0.20 Tolerance mm Del. quantity cm3/1000 strokes : 22.0 Tolerance cm3/1000 strokes : ← 3.0 Check tolerance cm3/1000s. 5.0 Spreed Tolerance 5.0 cm3/1000 strokes : Check tolerance 7.0 cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 19.06.95 Edition Test oil : 19.06.95

Combination No. : 0 401 876 792

Injection pump

Pump designation : PE6P120A320RS3313 EP type number : 0 411 826 807

Governor

Governer design. : RSV350...1100P8A558

Governer no. : 0 421 833 397

Cust. part No. : 1342533

Customer-spec. information Customer : SCANIA Motor : D9

TEST BENCH REQUIREMENTS

Inlet line : 3.1

**Vibration** 

damper

(RoBo diaphragm) : 4.2

Test oil inlet

temp. °C Tolerance °C

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5
Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 104

Opening pressure

251.5 Tolerance bar :  $\leftarrow$  1.5 Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0

x length mm : 600

REMARKS

Start-of-delivery setting with ROBO

diaphraam.

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 4.45
Tolerance mm : + 0.05

test only : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.30

Check

tolerance °NW : + 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm: 11.65 Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 144.0	Check tolerance cm3/1000s. : +- 4.0 Spreed
Tolerance cm3/1000 strokes : +- 1.0	Tolerance - cm3/1000 strokes : 8.0 - Check tolerance
Check tolerance cm3/1000s. : +- 4.0	- cm3/1000s. : 12.0
Spreed Tolerance cm3/1000 strokes : 8.0	RATED SPEED
Check tolerance	control lever position degree : 60.0
	tolerance degree : +- 4.0
Rated speed rpm : 350  Rack travel in mm : 5.10	- control lever - position degree : 110.0 - tolerance degree : +- 4.0
Tolerance mm : + 0.30 Del. quantity	•
cm3/1000 strokes : 18.0	- rack travel mm : 10.60 - Rated speed rpm : 1145 - Tolerance 1/min : +- 5
Tolerance cm3/1000 strokes : +- 3.0	•
Check tolerance cm3/1000s. : +- 6.0 Spreed	rack travel mm : 4.00 Rated speed rpm : 1210 Tolerance 1/min : +- 15
Tolerance cm3/1000 strokes : 4.0 Check tolerance	rack travel mm : 0.85 Tolerance mm : + 0.55
cm3/1000s. : 8.0	- Rated speed rpm : 1350
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	rack travel mm : 4.00 Rated speed rpm : 1225
	- LOW IDLE
GUIDE SLEEVE POSITION	
Rated speed rpm : 800	control lever position degree : 78.0 tolerance degree : +- 4.0
Rack travel in mm: 0.50 Tolerance mm: +- 0.20 governor spring	control lever position degree : 28.0 tolerance degree : +- 4.0
pre-tension click setting x : 6.00	Setting point w/out bumper spring
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 350 rack travel mm : 4.60
Rated speed rpm : 700 Aneroid pressure	Testing:
hPa : 1500 +	Rated speed rpm : 350 rack travel mm : 5.10
cm3/1000 strokes : 144.0	Tolerance mm : + 0.10
cm3/1000 strokes : + 1.0	rack travel mm : 2.00 Rated speed rpm : 550

Tolerance 1/min	: ← 30	Del. quantity cm3/1000 strokes : 106.0
TORQUE CONTROL		Tolerance + cm3/1000 strokes : +- 1.0
Rated speed rpm rack travel mm Tolerance mm	: 11.65	Check tolerance cm3/1000s. : + 4.0
Rated speed rpm		BREAKAWAY
rack travel mm Tolerance mm	: 11.65 : + 0.05	Rack travel in mm: 10.60 Rated speed rpm: 1145 Tolerance 1/min: +- 5
ANEROID/ALTITUDE COMPENSATOR TEST		Toterance minitions of the second of the sec
SETTING		STARTING FUEL DELIVERY
02.12.10		Rated speed rpm : 100
Rated speed rpm	: 500	rack travel mm : 10.30
Pressure hPa	: 1500 : 11.65	+ Tolerance mm : $+$ 0.20
Pressure hPa rack travel mm Tolerance mm	: 11.65	+ Del. quantity
Tolerance mm	: <del>+-</del> 0.05	cm3/1000 strokes : 100.0
MEASUREMENT		Tolerance cm3/1000 strokes : +- 20.0
D		theck tolerance
Pressure hPa	. 500	+  cm3/1000s. : + 24.0
Rated speed rpm rack travel mm	500 10.30	<b>†</b>
Tolerance mm	: + 0.20	<del>-</del>
Rated speed rpm	: 500	LOW IDLE
Pressure hPa	: 210	Rated speed rpm : 350
rack travel mm		rack travel mm : 5.10
Tolerance mm	: + 0.15	rack travel mm : 5.10 Tolerance mm : + 0.30 Del. quantity
		+ Del. quantity
Pressure hPa	: 280	+ cm3/1000 strokes : 18.0
rack travel mm	: 11.15	+ Tolerance
Tolerance mm	: ← 0.05	+ cm3/1000 strokes : + 3.0
		+ Check tolerance
		+ cm3/1000s. : + 6.0
FUEL BELTWERY CIV	ADASTEDICTICS	
FUEL DELIVERY CHA	ARACIERISTICS	Tolerance + cm3/1000 strokes : 4.0
Ananaid macanine		+ cm3/1000 strokes : 4.0 + Check tolerance
Aneroid pressure hPa	: 1500	- cneck toterance - cm3/1000s. : 8.0
nra Rated speed rpm	: 1100	
Del. quantity		<u> </u>
cm3/1000 strokes	: 145.8	<del> </del>
Tolerance		+
cm3/1000 strokes	: +- 4.0	
Check tolerance		† _ ,
cm3/1000s.	: +- 6.0	+ End of test specification sheet
Aneroid pressure		1
hPa	: -	+
Rated speed rpm	: 500	<del> </del>
• •		1

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 28.09.95 Test oil : ISO 4113

Combination No. : 0 401 876 800

Injection pump

Pump designation : PE6P12OA32ORS3313 EP type number : 0 411 826 807

Governor

Governer design. : RSV350...1050P8A558

: -1

Governer no. : 0 421 833 423

Cust. part No. : 1351267

Customer—spec. information Customer : SCANIA Motor : D9

TEST BENCH REQUIREMENTS

inlet line : 3.1

Vibration damper

(RoBo diaphragm) : 4.2

Test oil inlet

temp. °C : 40 Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5 Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 104

Opening pressure

bar : 251.5 Tolerance bar : +- 1.5 Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

Start-of-delivery setting with ROBO

diaphragm.

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 4.45 Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance  $: \leftarrow 0.30$ 

Check

tolerance °NW : +- 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 12.35 Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 160.0	+ Check tolerance + cm3/1000s. : + 4.0 + Spreed
Tolerance cm3/1000 strokes : +- 1.0	Tolerance : 8.0 Check tolerance
Check tolerance cm3/1000s. : +- 4.0	cm3/1000s. : 12.0
Spreed Tolerance cm3/1000 strokes : 8.0	RATED SPEED
Check tolerance : 12.0	control lever position degree : 56.0 tolerance degree : + 4.0
Rated speed rpm : 350	+ control lever + position degree : 106.0
Rack travel in mm : 5.10 Tolerance mm : + 0.30	tolerance degree : + 4.0
Del. quantity cm3/1000 strokes : 18.0	rack travel mm : 10.10 Rated speed rpm : 1095
Tolerance cm3/1000 strokes : +- 3.0 Check tolerance	Tolerance 1/min : +- 5 rack travel mm : 4.00
cm3/1000S. : + 6.0 Spreed Tolerance	Rated speed rpm : 1170 Tolerance 1/min : + 15
cm3/1000 strokes : 4.0 Check tolerance	rack travel mm : 0.85 Tolerance mm : + 0.55
cm3/1000s. : 8.0	+ Rated speed rpm : 1300
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	LOW IDLE
	control lever position degree : 77.0
GUIDE SLEEVE POSITION	tolerance degree : + 4.0
Rated speed rpm : 800	control lever position degree : 28.0
Rack travel in mm : 0.50 Tolerance mm : + 0.20	tolerance degree : - 4.0  Setting point w/out bumper spring
governor spring -	Rated speed rpm : 350
click setting x : 6.00	rack travel mm : 4.60
FULL LOAD DELIVERY AT FULL LOAD STOP	Testing: Rated speed rpm : 350
Rated speed rpm : 700 - Aneroid pressure	rack travel mm : 5.10 Tolerance mm : +- 0.10
hPa :	t rack travel mm : 2.00 Rated speed rpm : 550
Tolerance : +- 1.0	Tolerance 1/min : +- 30
-	t

-				neck tolerance n3/1000s.	:
TORQUE CONTROL			†	someid massums	
Rated speed rpm	: 700		T h	neroid pressure	
rack travel mm	: 12.35			ated speed rpm	•
Tolerance mm	: + 0.05			el. quantity	•
TOEC: WITH HIM	0.05			3/1000 strokes	:
Rated speed rpm	: 1050			lerance	•
rack travel mm	: 11.15		+ сп	3/1000 strokes	:
Tolerance mm	: +- 0.05		+ ch	eck tolerance	
			+ cm	13/1000s.	:
Rated speed rpm	: 925		+		
rack travel mm	: 11.95		+ -		
olerance mm	: +- 0.10		+ BR	REAKAWAY	
ated speed rpm	: 950		İ		
ack travel mm	: 11.50		I Pa	ck travel in mm	n :
olerance mm	: + 0.15			ited speed rpm	•
CACIONICE HIII	0.15			lerance 1/min	•
			1	rect differ it milit	•
NEROID/ALTITUDE			+		
OMPENSATOR TEST			† ==	ADTING FUEL DEL	7110
			I	ARTING FUEL DEL	-TAF
ETTING			+ Ra	ited speed rpm	
				ick travel mm	•
ated speed rpm	: 500			lerance mm	:
ressure hPa	: 1500			l. quantity	_
ack travel mm	: 12.35			3/1000 strokes	:
lerance mm	: + 0.05			lerance	
			+ cm	3/1000 strokes	:
ASUREMENT			+ ch	eck tolerance	
			+ cm	3/1000s.	:
essure hPa	:		÷		
ated speed rpm	: 500		†		
ack travel mm	: 10.50		†		
olerance mm	: +- 0.20		†	₩ IDLE	
ated speed and	: 500		I	M INTE	
ated speed rpm	: 560		I Da	ted speed rpm	:
ressure hPa	: 230			ck travel mm	•
ack travel mm	: 10.95			lerance no	•
olerance mm	· + 0.15			l. quantity	•
				3/1000 strokes	:
ressure hPa	: 310			lerance	-
ack travel mm	11.35			3/1000 strokes	:
	: +- 0.05			eck tolerance	
			+ cm	3/1000s.	;
		1	,	reed	
		1		Lerance	
TUEL DELIVERY CHAR	ACTERISTICS			3/1000 strokes	:
•				eck tolerance	
neroid pressure			+ cm	3/1000s.	:
iPa	4050		†		
ated speed rpm	: 1050		† -	and the state of t	
el. quantity	476.0		T -	المنصمة عمال	۔ دی۔
	: 136.0		† En	d of test speci	TTC
olerance			T		
m3/1000 strokes :	: +- 4.0				

cm3/1000s.	: +- 6.0
Aneroid pressure nPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Theck tolerance cm3/1000s.	
BREAKAWAY	
Rack travel in mm Rated speed rpm Tolerance 1/min	: 1095
STARTING FUEL DEL	IVERY
lated speed rpm rack travel mm Tolerance mm Del. quantity Em3/1000 strokes Tolerance Em3/1000 strokes Theck tolerance Em3/1000s.	
OW IDLE	
ated speed rpm ack travel mm olerance mm el. quantity m3/1000 strokes olerance m3/1000 strokes heck tolerance m3/1000s. preed olerance m3/1000 strokes heck tolerance m3/1000s.	: 350 : 5.10 : + 0.30 : 18.0 : + 3.0 : + 6.0 : 4.0 : 8.0
nd of test specif	fication sheet

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 19.06.95 Test oil : ISO 4113

Combination No. : 0 401 876 806

Injection pump

Pump designation : PE6P12OA32ORS3313 EP type number : 0 411 826 807

Governor

Governer design. : RSV350...1100P8A558

: -2

Governer no. : 0 421 833 474

Cust. part No. : 1376947

Customer-spec. information Customer : SCANIA Motor : D 9

# TEST BENCH REQUIREMENTS

inlet line : 3.1

Vibration damper

(RoBo diaphragm) : 4.2

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5
Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 104

Opening pressure

bar : 251.5 Tolerance bar : + 1.5 Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0

x length mm : 600

#### REMARKS

Start-of-delivery setting with ROBO

diaphragm.

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

# BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.45
Tolerance mm : + 0.05

test only :  $\leftarrow$  0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance :  $\leftarrow$  0.30

Check

tolerance "NW : +- 0.50

Start of delivery mark

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 700

Rack travel in mm: 11.65

Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 144.0	Check tolerance cm3/1000s. : +- 4.0
Tolerance cm3/1000 strokes : + 1.0	Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance
Check tolerance cm3/1000s. : + 4.0	cm3/1000s. : 12.0
Spreed Tolerance cm3/1000 strokes : 8.0	RATED SPEED
Check tolerance	control lever position degree : 63.0
cm3/1000s. : 12.0 +	tolerance degree : +- 4.0
Rated speed rpm : 350	control lever position degree : 113.0
Rack travel in mm: 5.10 Tolerance mm: + 0.30	tolerance degree : + 4.0
Del. quantity cm3/1000 strokes : 18.0 Tolerance	rack travel mm : 10.60 Rated speed rpm : 1145 Tolerance 1/min : +- 5
cm3/1000 strokes : + 3.0 Check tolerance	rack travel mm : 4.00
cm3/1000s. : +- 6.0 +-	Rated speed rpm : 1210 Tolerance 1/min : +- 15
Tolerance + cm3/1000 strokes : 4.0 + Check tolerance +	rack travel mm : 0.85 Tolerance mm : + 0.55
cm3/1000s. : 8.0	Rated speed rpm : 1350
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	rack travel mm : 4.00 Rated speed rpm : 1225
	FOM IDE
GUIDE SLEEVE POSITION	control lever
Rated speed rpm : 800	position degree : 77.0 tolerance degree : 4.0
Rack travel in mm: 0.50 Tolerance mm: + 0.20	control lever
governor spring pre-tension	position degree : 28.0 tolerance degree : +- 4.0
click setting x : 6.00	Setting point w/out bumper spring
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 350 rack travel mm : 4.60
Rated speed rpm : 700 + Aneroid pressure	Testing:
hPa : - +	Rated speed rpm : 350 rack travel mm : 5.10
cm3/1000 strokes : 144.0	Tolerance mm : + 0.10
cm3/1000 strokes : +- 1.0	rack travel mm : 2.00 Rated speed rpm : 550

Tolerance 1/min	: ← 30	† Del. quantity + cm3/1000 strokes : 114.0
TORQUE CONTROL Rated speed rpm		Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0
rack travel mm Tolerance mm	: 11.65 : + 0.05	BREAKAWAY
Rated speed rpm rack travel mm Tolerance mm	: 1100 : 11.65 : ← 0.05	Rack travel in mm: 10.60 Rated speed rpm: 1145 Tolerance 1/min: + 5
ANEROID/ALTITUDE COMPENSATOR TEST		
SETTING		STARTING FUEL DELIVERY Rated speed rpm : 100
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 1500 : 11.65	Rated speed rpm : 100 rack travel mm : 10.50 Tolerance mm : + 0.20
MEASUREMENT		LOW IDLE
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: 10.50	Rated speed rpm : 350 rack travel mm : 5.10 Tolerance mm : + 0.30
Rated speed rpm	: 500	+ Del. quantity + cm3/1000 strokes : 18.0 + Tolerance
Pressure hPa rack travel mm Tolerance mm	: 230 : 10.95 : ← 0.15	cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed
Pressure hPa rack travel mm Tolerance mm	: 310 : 11.35 : +- 0.05	Tolerance cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. : 8.0
FUEL DELIVERY CHA	RACTERISTICS	+
Aneroid pressure		
hPa Rated speed rpm Del. quantity		End of test specification sheet
cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance		<u>†</u>
cm3/1000s.	: +- 6.0	+
Aneroid pressure hPa Rated speed rpm	: - : 500	†

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 19.06.95

Test oil

: ISO 4113

Combination No. : 0 401 876 807

Injection pump

Pump designation : PE6P120A320RS3313 EP type number : 0 411 826 807

Governor

Governer design.

: RSV350...1100P8A558

: -3

Governer no.

: 0 421 833 475

Cust. part No. : 1374851

Customer-spec. information : SCANIA Customer Motor : DSI9 43M

TEST BENCH REQUIREMENTS

inlet line

: 3.1

Vibration damper

(RoBo diaphragm) : 4.2

Test oil inlet

temp. °C

Tolerance °C

2.0

Overflow valve

: 1 417 413 025

: 1 688 901 104

Inlet press. bar : 2.5 Tolerance bar : +- 0.1

Overflow quantity

min. L/h 190 Tolerance l/h: +- 10.0

Test nozzle holde

assembly

Firing order

Start of delivery mark

Barrel no. :

Phasing

1

BASIC SETTING

Rated speed rpm :

REMARKS

bar

Start-of-delivery setting with ROBO

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter :

: 251.5

: +- 1.5

2.0

600

diaphragm.

x length mm

Opening pressure

Tolerance bar

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm 4.45 Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm: 10.50

: +- 1.50 Tolerance mm

: 1-5-3-6-2-

: 0-60-120-180-240

: -300

Tolerance : + 0.30Check

tolerance \*NW :  $\leftarrow$  0.50

700

Rack travel in mm : 13.85 Tolerance mm : + 0.05	Del. quantity cm3/1000 strokes : 205.0 Tolerance cm3/1000 strokes : +- 1.0
Del. quantity cm3/1000 strokes : 205.0	Check tolerance cm3/1000s. : +- 4.0 Spreed
Tolerance cm3/1000 strokes : + 1.0	Tolerance cm3/1000 strokes : 8.0 Check tolerance
Check tolerance cm3/1000s. : + 4.0	cm3/1000s. : 12.0
Spreed	RATED SPEED
Tolerance + cm3/1000 strokes : 8.0	control lever
Check tolerance	position degree : 63.0
cm3/1000s. : 12.0	tolerance degree : +- 4.0
Rated speed rpm : 350	control lever
+	position degree : 113.0
Rack travel in mm: 5.10	tolerance degree : +- 4.0
Tolerance mm : +- 0.30 +	
Del. quantity	rack travel mm : 12.80
cm3/1000 strokes : 18.0 +	Rated speed rpm : 1145
Tolerance +	Tolerance 1/min : ← 5
cm3/1000 strokes : +- 3.0 +	
Check tolerance	rack travel mm : 4.00
cm3/1000s. : +- 6.0 +	Rated speed rpm : 1230
Spreed	Tolerance 1/min : + 15
Tolerance + cm3/1000 strokes : 4.0 +	rack travel mm : 0.85
cm3/1000 strokes : 4.0 + Check tolerance +	rack travel mm : 0.85 Tolerance mm : + 0.55
cm3/1000S. : 8.0 +	Rated speed rpm : 1350
Emb/ (6005 0.0	Rated speed (pill . 1990
I	rack travel mm : 4.00
(B) SETTING OF INJECTION PUMP	Rated speed rpm : 1240
WITH GOVERNOR	
†	LOW IDLE
	TOM TOPE
GUIDE SLEEVE POSITION	
+	control lever
Rated speed rpm : 800	position degree : 77.0
+	tolerance degree : +- 4.0
Rack travel in mm: 0.50	
Toterance mm : + 0.20	control lever
+	position degree : 28.0
governor spring +	tolerance degree : +- 4.0
pre-tension +	
click setting x : 6.00	Setting point w/out bumper spring
	Coted appeal non . 750
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 350 rack travel mm : 4.60
Rated speed rpm : 700	Testing:
Aneroid pressure	resemble
hPa : -	Rated speed rpm : 350
	rack travel mm : 5.10
•	

Tolerance mm	: + 0.10
rack travel mm Rated speed rpm Tolerance 1/min	: 525
TORQUE CONTROL	
Rated speed rpm rack travel mm Tolerance mm	: 700 : 13.85 : + 0.05
Rated speed rpm	: 1100
rack travel mm Tolerance mm	: 13.85 : +- 0.05
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa	: 500
rressure nra rack travel mm	: 13.85
Tolerance mm	: 13.85 : + 0.05
MEASUREMENT	
Pressure hPa	: -
Rated speed rpm	: 5UU • 10.50
Rated speed rpm rack travel mm Tolerance mm	: + 0.20
Rated speed rpm	: 500
Pressure hPa	: 320
rack travel mm	: 11.15
Tolerance mm	: ← 0.20
Pressure hPa	: 610
rack travel mm Tolerance mm	: 12.85 : + 0.05
roter arrice half	. , . 0.05
ELIEL DEL TURNO CUA	DACTEDICT?CC
FUEL DELIVERY CHA	WWeierro! Teo
Aneroid pressure hPa	• ••
Rated speed rpm	: 1100
Del. quantity cm3/1000 strokes	: 190.0
Tolerance	
cm3/1000 strokes Check tolerance	: +- 4.0
cm3/1000s.	: +- 6.0

Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	
BREAKAWAY	and a farming a grant has so the first first for the first f
Rack travel in mm Rated speed rpm Tolerance 1/min	: 12.80 : 1145 : + 5
STARTING FUEL DEL	IVERY
Rated speed rpm rack travel mm Tolerance mm	: 100 : 10.50 : +- 0.20
LOW IDLE	
Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s.	5.10 : + 0.30 : 18.0

## Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 27.09.95 Edition Test oil : ISO 4113

Combination No. : 0 401 878 718

Injection pump

Pump designation : PE8P110A320LS3862 EP type number : 0 411 818 727

Governor

Governer design. : RSV350...1050POA617

Governer no. : 0 421 833 508

Cust. part No. : 0260749502

Customer-spec. information Customer : MB-NFZ Motor : 0M442 Power KW : 195.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temo. °C Tolerance °C 2.0

Overflow valve : 1 417 413 047

1.5 Inlet press. bar : Tolerance bar : +- 0.1

Tolerance 1/h : +- 10.0

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 bar Tolerance bar : + 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0 600 x length mm :

#### REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.45
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 10.50 Tolerance mm :  $\leftarrow$  1.50

Firing order : 8-7-2-6-3

: - 5- 4- 1

Phasing : 0-45-90-135-180 : -225-270-315

Tolerance : ÷- 0.30

Check

tolerance "NW : + - 0.50

Start of delivery mark

Barrel no. :

## BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm: 11.90 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 115.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s. : +- 3.5	t control lever position degree : 96.0
Spreed Tolerance	tolerance degree : + 4.0
cm3/1000 strokes : 8.5	rack travel mm : 10.90 Rated speed rpm : 1095
Check tolerance cm3/1000s. : 13.0	Tolerance 1/min : + 5 rack travel mm : 4.00
Rated speed rpm : 350	+ rack travel mm : 4.00 + Rated speed rpm : 1165 + Tolerance 1/min : + 15
Rack travel in mm : 7.60	+
Tolerance mm : ← 0.30	† rack travel mm : 0.85
Del. quantity	+ Tolerance mm : + 0.55
cm3/1000 strokes : 19.0 Tolerance	Rated speed rpm : 1350
cm3/1000 strokes : + 3.0	+
Check tolerance cm3/1000s. : +- 5.5 Spreed	+ LOW IDLE
Tolerance	T control lever
cm3/1000 strokes : 6.5	position degree : 74.0
Check tolerance	tolerance degree : + 4.0
cm3/1000s. : 11.0	1. Cotes and degree 4.0
	Testing:
(B) SETTING OF INJECTION PUMP	Rated speed rpm : 350
	+ Rated speed rpm : 350 + rack travel mm : 5.80
WITH GOVERNOR	
	Tolerance mm : + 0.10
	1 200
	+ rack travel mm : 2.00
GUIDE SLEEVE POSITION	+ Rated speed rpm : 405
	+ Tolerance 1/min : + 30
Rated speed rpm : 800	
	+ Rated speed rpm : 100
Rack travel in mm: 0.50	+
Tolerance $mn$ : $\leftarrow$ 0.20	+ CRT mm min. : > 19.50
	+ SET IDLE AUXILIARY SPRING
FULL LOAD DELIVERY AT FULL LOAD STOP	t
	+ rack travel mm : 2.00
Rated speed rpm : 1850	+
Aneroid pressure	
hPa : -	+ TORQUE CONTROL
Del. quantity	+
cm3/1000 strokes : 115.0	+ Rated speed rpm : 1050
Tolerance	+ rack travel mm : 11.90
cm3/1000 strokes : + 1.0	+ Tolerance mm : +- 0.05
Check tolerance	+
cm3/1000s. : +- 3.5	+ Rated speed rpm : 600
Spreed	+ rack travel mm : 11.90
Tolerance	Rated speed rpm : 600 rack travel mm : 11.90 Tolerance mm : + 0.10
cm3/1000 strokes : 8.5	+
Check tolerance	1
cm3/1000S. : 13.0	
. 15.0	
	FUEL DELIVERY CHARACTERISTICS
DATEN SPEEN	I TOTE NETTACK! CHARACTERISTICS
RATED SPEED	Ţ
	Т

Aneroid pressure hPa Rated speed rom 600 Del. quantity cm3/1000 strokes : 122.0 Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s. 5.5 Spreed Tolerance cm3/1000 strokes : 11.0 Check tolerance cm3/1000s. : 14.0 BREAKAWAY Rack travel in mm : 10.90 Rated speed rpm : 1095 Tolerance 1/min : +-STARTING FUEL DELIVERY Rated speed rpm 100 Del. quantity cm3/1000 strokes : 140.0 Tolerance cm3/1000 strokes : +- 10.0 Check tolerance cm3/1000s. : +- 14.0 LOW IDLE 350 Rated speed rpm rack travel mm 7.60 Tolerance mm : + 0.30 Del. quantity cm3/1000 strokes : 19.0 Tolerance cm3/1000 strokes 3.0 Check tolerance cm3/1000s. 5.5 Spreed Tolerance cm3/1000 strokes : 6.5 Check tolerance cm3/1000s. 11.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 28.09.95 Test oil : ISO 4113

Combination No. : 0 402 046 869

Injection pump

Pump designation : PES6P110A320RS3349

EP type number : 0 412 016 753

Governor

Governer design. : RQV350...1400PA1220K

Governer no. : 0 421 815 471

Cust. part No. : 16700-08801

Customer-spec. information

Customer : NISSAN-MISA Motor : M 3.6 TI N

Power KW : 150.0

TEST BENCH REQUIREMENTS

inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity

min. L/h : 100 Tolerance L/h : + 10.0

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.55 Tolerance mm : +- 0.05

test only : +- 0.10

Rack travel in mm : 20.50 Tolerance mm : + 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.30

Check

tolerance "NW : + 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm: 15.40

Tolerance mm :  $\leftarrow$  0.05

Del. quantity

cm3/1000 strokes : 172.0

\_\_\_\_\_

Tolerance cm3/1000 strokes	: +- 1.0	
Check tolerance		- GUIDE SLEEVE POSITION
cm3/1000s.	: ← 3.0	- Rated speed rpm : 1500
Spreed Tolerance cm3/1000 strokes	: 5.0	Rack travel in mm: 14.40 Tolerance mm: + 1.50
Check tolerance cm3/1000s.	: 9.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Rated speed rpm	: 350	- Rated speed rpm : 1300 - Aneroid pressure - hPa : 1500
Rack travel in mr		Del. quantity - cm3/1000 strokes : 172.0
Del. quantity cm3/1000 strokes	4	- Tolerance - cm3/1000 strokes : +- 1.0
Tolerance cm3/1000 strokes	+	- Check tolerance - cm3/1000s. : +- 3.0
Check tolerance cm3/1000s.	: +- 5.0	- Spreed - Tolerance
Spreed Tolerance	: 5.0	cm3/1000 strokes : 5.0 Check tolerance
cm3/1000 strokes Check tolerance	: 6.0	- cm3/1000s. : 9.0
cm3/1000s.	: 10.0	RATED SPEED
(B) SETTING OF IN	NJECTION PUMP	control lever position degree : 66.0
GUIDE SLEEVE TRAN	VEL	tolerance degree : +- 4.0  control lever
Rated speed rpm guide sleeve	: 350	position degree : 301.0 tolerance degree : +- 4.0
travel nm Tolerance mm	: + 0.20	rack travel mm : 14.40 Rated speed rpm : 1410
Rated speed rpm guide sleeve	: 1422	Tolerance 1/min : + 5
travel mm Tolerance mm	: 10.03 : + 0.15	rack travel mm : 4.00 Rated speed rpm : 1590 Tolerance 1/min : +- 15
Rated speed rpm guide sleeve	: 996	rack travel mm : 0.50
travel mm Tolerance mm	: 6.78 : ← 0.25	Tolerance mm : +- 0.50 Rated speed rpm : 1680
Rated speed rpm guide sleeve	: 610	LOW IDLE
travel mm Tolerance mm	: 3.96 : + 0.25	-
Rated speed rpm	: 1730	control lever position degree : 262.0
guide sleeve travel mm Tolerance mm	: 13.50 : + 0.50	tolerance degree : +- 4.0

		†
control lever position degree tolerance degree	: 27.0 : +- 4.0	START CUT-OUT
Testing:		+ Rated speed rpm :> 270 + Check
		speed 1/min : > 300
Rated speed rpm rack travel mm	: 350 : 9.80	
rack travel mm Tolerance mm	: + 0.10	FUEL DELIVERY CHARACTERISTICS
Rated speed rpm	: 250	Aneroid pressure hPa : 1500
CRT mm min.	: > 11.00	Rated speed rpm : 780
Rated speed rpm	: 400	Del. quantity - cm3/1000 strokes : 152.0 - Tolerance
TORQUE CONTROL		- + cm3/1000 strokes : +- 2.0 Check tolerance
	4700	+ cm3/1000s. : +- 5.0
Rated speed rpm rack travel mm	: 15.40	Spreed Tolerance
Tolerance mm	: + 0.05	cm3/1000 strokes : 8.0 Check tolerance
Rated speed rpm	: 780	cm3/1000s. : 12.0
Rated speed rpm rack travel mm Tolerance mm	: 13.90 · ← 0.15	+ Aneroid pressure
		+ hPa : 1500
Rated speed rpm	: 1000 14 30	Rated speed rpm : 1000
rack travel mm Tolerance mm	: +- 0.20	+ cm3/1000 strokes : 159.0
		+ Tolerance - + cm3/1000 strokes : + 3.0
ANEROID/ALTITUDE COMPENSATOR TEST		+ Check tolerance + cm3/1000s. : +- 6.0
		Aneroid pressure
SETTING		+ hPa : -
Rated speed rpm	: 1300	+ Rated speed rpm : 500 + Del. quantity
Pressure hPa rack travel mm		tom3/1000 strokes : 111.0
Tolerance mm	: +- 0.05	cm3/1000 strokes : + 1.0
MEASUREMENT		t Check tolerance cm3/1000s. : + 4.0
Pressure hPa	: -	I
Rated speed rpm rack travel mm	: 1300	† BREAKAWAY
Tolerance mm	: +- 0.20	
Rated speed rpm	: 1300	Rack travel in mm: 14.40 Rated speed rpm: 1410 Tolerance 1/min: +- 5
Pressure hPa	: 425	+
rack travel mm Tolerance mm	: 12.80 : +- 0.15	
		STARTING FUEL DELIVERY
Pressure hPa rack travel mm		+ Rated speed rpm : 100
Tolerance mm	: + 0.05	1.0000 0,0000 1,000

Del. quantity

cm3/1000 strokes : 200.0

Tolerance

cm3/1000 strokes : + 15.0

Check tolerance

cm3/1000s. : + 19.0

## LOW IDLE

Rated speed rpm : 350
rack travel mm : 9.80
Tolerance mm : + 0.30
Del. quantity
cm3/1000 strokes : 28.0

cm3/1000 strokes : Tolerance

cm3/1000 strokes : +- 2.5

Check tolerance

cm3/1000s. : +- 5.0

Spreed Tolerance

cm3/1000 strokes : 6.0

Check tolerance

cm3/1000s. : 10.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 28.09.95

Test oil

: ISO 4113

Combination No. : 0 402 066 704

Injection pump

Pump designation : PES6P120A120RS3358

EP type number : 0 412 026 784

Governor

Governer design. : RSV475...1250P2A613

Governer no. : 0 421 833 501

Cust. part No. : 3927359

Customer-spec. information

Customer

: CDC

Motor

: 6BTA-590 ELITE

Power KW

: 149.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

Tolerance °C

: +- 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 1 688 901 103

Opening pressure

208.5

Tolerance bar

: ← 1.5

Test lines : 1 680 750 089

Outside diameter :

8.0

x inside diameter:

x length mm

3.0 : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : + 1.0

2.85 Prestroke mm

: + - 0.05Tolerance mm

test only : + 0.10

Rack travel in mm: 10.50

Tolerance mm :  $\leftarrow$  1.50

: 1-5-3-6-2-Firing order

Phasing : 0-60-120-180-240

: -300

: + - 0.30Tolerance

Check

tolerance 'NW : +- 0.50

Start of delivery blocking

\*NW after s.o.d. : 7.50

Tolerance

: +- 0.50

Check

: + 0.75

Barrel no.

: 1

BASIC SETTING

Rated speed rpm : 1250

tolerance °NW

Rack travel in mm: 11.90

Tolerance mm

: +- 0.05

Del. quantity cm3/1000 strokes : 152.0	Check tolerance cm3/1000s. : 7.5
Tolerance cm3/1000 strokes : + 1.0	RATED SPEED
Check tolerance cm3/1000s. : + 3.0	control lever position degree : 110.0
Spreed Tolerance cm3/1000 strokes : 4.0	tolerance degree : + 4.0 rack travel mm : 11.90
Check tolerance	Rated speed rpm : 1320 Tolerance 1/min : + 5
cm3/1000s. : 7.5	rack travel mm : 4.00
Rated speed rpm : 475	Rated speed rpm : 1420 Tolerance 1/min : +- 15
Rack travel in mm: 5.50 Tolerance mm: + 0.30	rack travel mm : 0.85 Tolerance mm : + 0.55
Del. quantity cm3/1000 strokes : 22.0 Tolerance	Tolerance mm : + 0.55 Rated speed rpm : 1500
cm3/1000 strokes : + 2.0 Check tolerance	LOW IDLE
cm3/1000s. : + 4.5 Spreed	
Tolerance cm3/1000 strokes : 6.0	control lever position degree : 84.0
Check tolerance cm3/1000s. : 9.0	tolerance degree : +- 4.0  Testing:
(B) SETTING OF INJECTION PUMP	Rated speed rpm : 475
WITH GOVERNOR	rack travel mm : 5.50 Tolerance mm : +- 0.10
GUIDE SLEEVE POSITION	rack travel mm : 2.00 Rated speed rpm : 570
Rated speed rpm : 800	Toterance 1/min : + 30
Rack travel in mm: 0.50	SET IDLE AUXILIARY SPRING
Tolerance mm : + 0.20	rack travel mm : 2.00
FULL LOAD DELIVERY AT FULL LOAD STOP	TORQUE CONTROL
Rated speed rpm : 1250 Aneroid pressure	Rated speed rpm : 1250 rack travel mm : 11.90
hPa : 1500 † Del. quantity †	Tolerance mm : +- 0.05
cm3/1000 strokes : 152.0	Rated speed rpm : 750 rack travel mm : 11.90
cm3/1000 strokes : + 1.0 + Check tolerance	Tolerance mm : + 0.10
cm3/1000s. : + 3.0 + Spreed + Tolerance	
cm3/1000 strokes : 4.0	

# ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 11.90
Tolerance mm : + 0.05

## **MEASUREMENT**

Pressure hPa : Rated speed rpm : 500
rack travel mm : 9.10
Tolerance mm : + 0.20

Rated speed rpm : 500

Pressure hPa : 975 rack travel mm : 11.20 Tolerance mm : +- 0.20

Pressure hPa : 575
rack travel mm : 9.50
Tolerance mm : ← 0.05

# FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

1500 hPa 750 Rated speed rpm Del. quantity cm3/1000 strokes : 170.0 Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s.: +--6.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance 12.0 cm3/1000S.

Aneroid pressure
hPa : Rated speed rom : 500
Del. quantity
cm3/1000 strokes : 99.0
Tolerance
cm3/1000 strokes : + 2.0
Check tolerance
cm3/1000s. : + 4.0

## BREAKAWAY

Rack travel in mm : 11.90
Rated speed rpm : 1320
Tolerance 1/min : +- 5

# STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.25 Tolerance mm : + 0.75 Del. quantity

cm3/1000 strokes : 165.0

Tolerance

cm3/1000 strokes : +- 20.0

Check tolerance

cm3/1000s. :  $\leftarrow$  25.0

## LOW IDLE

Rated speed rpm : 475 rack travel mm 5.50 Tolerance mm : +- 0.30 Del. quantity cm3/1000 strokes : 22.0 Tolerance cm3/1000 strokes : +-2.0 Check tolerance 4.5 cm3/1000s. Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance 9.0 cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 27.09.95 Edition : ISO 4113 Test oil

Combination No. : 0 402 066 707

Injection pump

Pump designation : PES6P120A120RS3358 EP type number : 0 412 026 784

Governor

Governer design. : RSV475...1100P2A618 Governer no. : 0 421 833 513

Cust. part No. : 3927356

Customer-spec. information

Customer : CDC

Motor : 6BTA ELITE

Power KW : 136.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C 40 : +- 2.0 Tolerance °C

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 103 assembly

Opening pressure

208.5 : +- 1.5 Tolerance bar

: 1 680 750 089 Test lines

Outside diameter : 8.0

x inside diameter : 3.0 600 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar: 26.0 Tolerance bar : + 1.0

Prestroke mm 2.85 : + 0.05 Tolerance mm

test only : + 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

: 1-5-3-6-2-Firing order

: 4

: 0-60-120-180-240 Phasing

: -300

: +- 0.30 Tolerance

Check

tolerance 'NW : + 0.50

Start of delivery blocking

\*NW after s.o.d. : 6.75

: + 0.50Tolerance

Check

tolerance \*NW : + 0.75

: 1 Barrel no.

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm: 12.00

Tolerance mm :  $\leftarrow$  0.05

Del. quantity cm3/1000 strokes : 155.5	Check tolerance cm3/1000s. : +- 3.0 Spreed
Tolerance cm3/1000 strokes : + 1.0	Tolerance cm3/1000 strokes : 4.0 Check tolerance
Check tolerance cm3/1000s. : + 3.0	cm3/1000s. : 7.5
Spreed Tolerance cm3/1000 strokes : 4.0	RATED SPEED
Check tolerance cm3/1000S. : 7.5	<pre>control lever position degree : 100.0 tolerance degree : + 4.0</pre>
Rated speed rpm : 475	rack travel mm : 11.00 Rated speed rpm : 1145
Rack travel in mm: 5.60 Tolerance mm: + 0.30 Del. quantity	Tolerance 1/min : + 5 rack travel mm : 4.00
cm3/1000 strokes : 24.0 Tolerance cm3/1000 strokes : + 2.0	Rated speed rpm : 1230 Tolerance 1/min : +- 15
Check tolerance cm3/1000S. : + 4.5 Spreed Tolerance	rack travel mm : 0.85 Tolerance mm : + 0.55 Rated speed rpm : 1350
cm3/1000 strokes : 6.0 + Check tolerance cm3/1000s. : 9.0 +	LOW IDLE
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	<pre>control lever position degree : 79.0 tolerance degree : +- 4.0 Testing:</pre>
GUIDE SLEEVE POSITION	Rated speed rpm : 475 rack travel mm : 5.60
Rated speed rpm : 800	Tolerance mm : + 0.10
Rack travel in mm: 0.50 Tolerance mm: + 0.20	rack travel mm : 2.00 Rated speed rpm : 550 Tolerance 1/min : + 30
governor spring pre-tension click setting x : 2.75	SET IDLE AUXILIARY SPRING
	rack travel mm : 2.00
FULL LOAD DELIVERY AT FULL LOAD STOP	TORQUE CONTROL
Rated speed rpm : 1100 Aneroid pressure hPa : 1500	Rated speed rpm : 1100 rack travel mm : 12.00
Del. quantity cm3/1000 strokes : 155.5 Tolerance	Tolerance mm : +- 0.05  Rated speed rpm : 750
cm3/1000 strokes : + 1.0	rack travel mm : 12.00 Tolerance mm : +- 0.10

# ANEROID/ALTITUDE COMPENSATOR TEST

## SETTING

500 Rated speed rpm Pressure hPa 1500 rack travel mm 12.00 : +- 0.05 Tolerance mm

## **MEASUREMENT**

Pressure hPa 500 Rated speed rom rack travel mm 9.60 Tolerance mm : + 0.20

500 Rated speed rom

900 Pressure hPa 11.60 rack travel mm : : +- 0.20 Tolerance mm

Pressure hPa 600 10.50 rack travel mm : + 0.05Tolerance mm

## FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

1500 hPa 750 Rated speed rom Del. quantity cm3/1000 strokes : 170.0

Tolerance cm3/1000 strokes : +-3.0

Check tolerance

cm3/1000S. 6.0

Spreed Tolerance

8.0 cm3/1000 strokes :

Check tolerance

12.0 cm3/1000s.

Aneroid pressure

hPa Rated speed rom 500 Del. quantity 108.0

cm3/1000 strokes : Tolerance

cm3/1000 strokes : +-2.0

Check tolerance

cm3/1000S. 4.0

## **BREAKAWAY**

Rack travel in mm : 11.00 Rated speed rpm : 1145 Tolerance 1/min : +-

# STARTING FUEL DELIVERY

Rated speed rpm 100 rack travel mm 20.25 : +- 0.75 Tolerance mm Del. quantity

cm3/1000 strokes : 165.0

Tolerance

cm3/1000 strokes : +- 20.0

Check tolerance

cm3/1000s.: +- 25.0

## LOW IDLE

475 Rated speed rpm rack travel mm 5.60 Tolerance mm 0.30 Del. quantity cm3/1000 strokes : 24.0 Tolerance cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s. 4.5 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. 9.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 28.09.95 Test oil : ISO 4113

Combination No. : 0 402 636 800

Injection pump

Pump designation : PE6P130A720/3LS7827

EP type number : 0 412 636 814

Governor

Governer design. : RQV400...1150PA937

Governer no. : 0 421 813 823

Cust. part No. :

Customer—spec. information

Customer : IVECO-FIAT Motor : 8262.43.001

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter: 1.5

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.15
Tolerance mm : + 0.05

test only  $: \leftarrow 0.10$ 

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-6-5-4-3-

: 2

Phasing : 0-75-120-195-240

: -315

Tolerance  $: \leftarrow 0.30$ 

Check

tolerance "NW : + 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 11.75 Tolerance mm : + 0.05

\_\_\_\_\_

Del. quantity cm3/1000 strokes : 269.5

Tolerance

cm3/1000 strokes : +- 1.5

Check tolerance

cm3/1000s. : +- 5.0

Spreed

Tolerance	1	
cm3/1000 strokes	: 6.0	GUIDE SLEEVE POSITION
Check tolerance cm3/1000s.	: 10.0	Rated speed rpm : 850
Rated speed rpm	: 400	Rack travel in mm : 17.50 Tolerance mm : +- 1.00
Rack travel in mon Tolerance mon	: 5.00 : + 0.20	
Del. quantity cm3/1000 strokes Tolerance	: 24.0	FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1150
cm3/1000 strokes Check tolerance	: + 3.0	Rated speed rpm : 1150 Aneroid pressure hPa : 1200
cm3/1000s. Spreed	: + 7.0	Del. quantity cm3/1000 strokes : 269.5
Tolerance cm3/1000 strokes	: 10.0	Tolerance cm3/1000 strokes : +- 1.5
Check tolerance cm3/1000s.	: 14.0	Check tolerance cm3/1000S. : +- 5.0 Spreed
(B) SETTING OF IN	JECTION PUMP	Tolerance cm3/1000 strokes : 6.0
WITH GOVERNOR	‡	Check tolerance cm3/1000s. : 10.0
GUIDE SLEEVE TRAV	EL	DATES ODES
Rated speed rpm guide sleeve	: 400	RATED SPEED
travel mm Tolerance mm	: 2.75 : + 0.20	control lever position degree : 113.0
Rated speed rpm guide sleeve	: 1204	tolerance degree : +- 4.0 rack travel mm : 10.70
travel mm Tolerance mm	: 7.21 : ← 0.15	Rated speed rpm : 1195 Tolerance 1/min : + 5
Rated speed rpm	: 1150	rack travel mm : 4.00
guide sleeve travel mm Tolerance mm	: 7.05 : + 0.25	Rated speed rpm : 1255 Tolerance 1/min : +- 15
Rated speed rpm	: 500	rack travel mm : 0.50 Tolerance mm : + 0.50
guide sleeve travel mm Tolerance mm	: 4.50 : + 0.25	Rated speed rpm : 1350 rack travel mm : 4.00
Rated speed rpm	: 650	(OIL TOLE
guide sleeve travel mm Tolerance mm	: 6.00 + : +- 0.25 +	LOW IDLE
Rated speed rpm	+	control lever position degree : 72.0
guide sleeve travel mm Tolerance mm	: 11.50 : + 0.50	tolerance degree : +- 4.0 Testing:
TOTEL OFFICE (IN)	+	Rated speed rpm : 400

5.00 rack travel mm Tolerance mm - 0.10 Rated speed rpm 100 CRT mm min. 6.50 475 Rated speed rpm TORQUE CONTROL 1150 Rated speed rom 11.75 rack travel mm Tolerance mm : +- 0.05 Rated speed rpm : 700 11.75 rack travel mm Tolerance mm : +- 0.05 ANEROID/ALTITUDE COMPENSATOR TEST SETTING 500 Rated speed rpm 1200 Pressure hPa 11.75 rack travel mm : ← 0.05 Tolerance mm **MEASUREMENT** Pressure hPa 500 Rated speed rpm 8.60 rack travel mm Tolerance mm : +- 0.10 500 Rated speed rpm 650 Pressure hPa 10.75 rack travel mm Tolerance mm : ← 0.05 Pressure hPa 250 9.30 rack travel mm Tolerance mm : +- 0.10 FUEL DELIVERY CHARACTERISTICS Aneroid pressure 1200 hPa Rated speed rpm 700 Del. quantity cm3/1000 strokes : 278.5 Tolerance

Check tolerance · +- 7.0 cm3/1000s. Aneroid pressure Rated speed rpm 500 Del. quantity cm3/1000 strokes : 166.5 Tolerance cm3/1000 strokes : +-1.5 Check tolerance cm3/1000s. 5.0 BREAKAWAY Rack travel in mm: 10.70 Rated speed rpm : 1195 Tolerance 1/min STARTING FUEL DELIVERY Rated speed rpm 100 LOW IDLE Rated speed rpm 400 rack travel mm 5.00 : + 0.20Tolerance mm Del. quantity cm3/1000 strokes : 24.0 Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s. 7.0 Spreed Tolerance cm3/1000 strokes : 10.0 Check tolerance cm3/1000s. 14.0 End of test specification sheet

cm3/1000 strokes : +- 3.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 04,10,95 Edition Test oil : ISO 4113

Combination No. : 0 402 640 842

Injection pump

Pump designation : PE12P120A520/5RS7304

EP type number : 0 412 620 838

Governor

Governer design. : RQV300...550/1050PA1

: 093

Governer no. : 0 421 814 067

Cust. part No. :

Customer-spec. information

Customer : MWM

Motor : TBD234-FAUN

TEST BENCH REQUIREMENTS

Inlet line : 3.1,3.2

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Overflow quantity

170 min. L/h Tolerance l/h : +- 10.0

Test nozzle holde

: 1 688 901 019 assembly

Opening pressure

208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.20 : +- 0.05 Tolerance mm

test only : +- 0.10

Rack travel in mm: 19.50 Tolerance mm :  $\leftarrow$  1.50

Firing order : 1-2-9-10-5-6

: - 11- 12- 3- 4 : - 7- 8

Phasina : 0-30-60-90-120-150

: -180-210-240-270

: -300-330

Tolerance : **←** 0.30

Check

tolerance  $^{\circ}NW$  : + 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm: 13.60 Tolerance mm :  $\leftarrow$  0.05

Del. quantity

cm3/1000 strokes : 235.0

Tolerance

cm3/1000 strokes : +- 1.0

	+ guide steeve
Check tolerance cm3/1000s. : + 4.0	travel mm : 6.00 Tolerance mm : +- 0.25
Canad	Rated speed rpm : 1260
Spreed Tolerance	+ Rated speed rpm : 1260 + guide sleeve
cm3/1000 strokes : 6.0	travel mm : 11.50
Capy rocks . 0.0	+ Tolerance mm : + 0.50
Check tolerance	T total disce that . 4- 0.50
cm3/1000s. : 9.0	
· // / / / / / / / / / / / / / / / / /	GUIDE SLEEVE POSITION
Rated speed rpm : 300	1
nated apole i par	+ Rated speed rpm : 1190
Rack travel in mm : 6.75	
Tolerance mm : + 0.20	+ Rack travel in mm : 12.60
Del. quantity	+ Tolerance mm : + 2.00
cm3/1000 strokes : 38.0	+
Tolerance	
cm3/1000 strokes : +- 5.0	+ FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance	+
cm3/1000S. : $+$	+ Rated speed rpm : 1050
Spreed	+ Aneroid pressure
Tolerance	† hPa : 1250
cm3/1000 strokes : 8.0	+ Del. quantity
Check tolerance	+ cm3/1000 strokes : 235.0
cm3/1000s. : 12.0	+ Tolerance
	+ cm3/1900 strokes : + 1.0
(D) AFTTING AS THUSATION DUMP	theck tolerance
(B) SETTING OF INJECTION PUMP	+  cm3/1000s. : + 4.0
WITH GOVERNOR	+ Spreed
	Talanaman
	† Tolerance
CUTDE SI EEVE TRAVEI	+ cm3/1000 strokes : 6.0
GUIDE SLEEVE TRAVEL	cm3/1000 strokes : 6.0 Check tolerance
	+ cm3/1000 strokes : 6.0
Rated speed rpm : 300	cm3/1000 strokes : 6.0 Check tolerance
Rated speed rpm : 300 guide sleeve	cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0
Rated speed rpm : 300 guide sleeve travel mm : 1.30	cm3/1000 strokes : 6.0 Check tolerance
Rated speed rpm : 300 guide sleeve travel mm : 1.30	cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0
Rated speed rpm : 300 guide sleeve travel mm : 1.30 Tolerance mm : + 0.25	cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0
Rated speed rpm : 300 guide sleeve travel mm : 1.30 Tolerance mm : + 0.25	cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED
Rated speed rpm : 300 guide sleeve travel mm : 1.30 Toterance mm : + 0.25  Rated speed rpm : 1107 guide sleeve travel mm : 5.75	cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever
Rated speed rpm : 300 guide sleeve travel mm : 1.30 Toterance mm : + 0.25  Rated speed rpm : 1107 guide sleeve	cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 51.0 tolerance degree : 4.0
Rated speed rpm : 300 guide sleeve travel mm : 1.30 Toterance mm : + 0.25  Rated speed rpm : 1107 guide sleeve travel mm : 5.75 Toterance mm : + 0.25	cm3/1000 strokes : 6.0 Check tolerance cm3/1000S. : 9.0  RATED SPEED  control lever position degree : 51.0 tolerance degree : + 4.0  control lever
Rated speed rpm : 300 guide sleeve travel mm : 1.30 Toterance mm : + 0.25  Rated speed rpm : 1107 guide sleeve travel mm : 6.75 Toterance mm : + 0.25  Rated speed rpm : 1050	cm3/1000 strokes : 6.0 Check tolerance cm3/1000S. : 9.0  RATED SPEED  control lever position degree : 51.0 tolerance degree : + 4.0  control lever position degree : 115.0
Rated speed rpm : 300 guide sleeve travel mm : 1.30 Tolerance mm : + 0.25  Rated speed rpm : 1107 guide sleeve travel mm : 6.75 Tolerance mm : + 0.25  Rated speed rpm : 1050 guide sleeve	cm3/1000 strokes : 6.0 Check tolerance cm3/1000S. : 9.0  RATED SPEED  control lever position degree : 51.0 tolerance degree : + 4.0  control lever
Rated speed rpm : 300 guide sleeve travel mm : 1.30 Tolerance mm : + 0.25  Rated speed rpm : 1107 guide sleeve travel mm : 6.75 Tolerance mm : + 0.25  Rated speed rpm : 1050 guide sleeve travel mm : 6.00	cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 51.0 tolerance degree : + 4.0  control lever position degree : 115.0 tolerance degree : + 4.0
Rated speed rpm : 300 guide sleeve travel mm : 1.30 Tolerance mm : + 0.25  Rated speed rpm : 1107 guide sleeve travel mm : 6.75 Tolerance mm : + 0.25  Rated speed rpm : 1050 guide sleeve	cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 51.0 tolerance degree : + 4.0  control lever position degree : 115.0 tolerance degree : + 4.0  rack travel mm : 12.60
Rated speed rpm : 300 guide sleeve travel mm : 1.30 Toterance mm : + 0.25  Rated speed rpm : 1107 guide sleeve travel mm : 6.75 Toterance mm : + 0.25  Rated speed rpm : 1050 guide sleeve travel mm : 6.00 Toterance mm : + 0.25	cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 51.0 tolerance degree : + 4.0  control lever position degree : 115.0 tolerance degree : + 4.0  rack travel mm : 12.60 Rated speed rpm : 1095
Rated speed rpm : 300 guide sleeve travel mm : 1.30 Toterance mm : + 0.25  Rated speed rpm : 1107 guide sleeve travel mm : 6.75 Toterance mm : + 0.25  Rated speed rpm : 1050 guide sleeve travel mm : 6.00 Toterance mm : + 0.25  Rated speed rpm : 586	cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 51.0 tolerance degree : + 4.0  control lever position degree : 115.0 tolerance degree : + 4.0  rack travel mm : 12.60
Rated speed rpm : 300 guide sleeve travel mm : 1.30 Toterance mm : + 0.25  Rated speed rpm : 1107 guide sleeve travel mm : 6.75 Toterance mm : + 0.25  Rated speed rpm : 1050 guide sleeve travel mm : 6.00 Toterance mm : + 0.25  Rated speed rpm : 586 guide sleeve	cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 51.0 tolerance degree : + 4.0  control lever position degree : 115.0 tolerance degree : + 4.0  rack travel mm : 12.60 Rated speed rpm : 1095 Tolerance 1/min : + 5
Rated speed rpm : 300 guide sleeve travel mm : 1.30 Toterance mm : + 0.25  Rated speed rpm : 1107 guide sleeve travel mm : 5.75 Tolerance mm : + 0.25  Rated speed rpm : 1050 guide sleeve travel mm : 6.00 Tolerance mm : + 0.25  Rated speed rpm : 586 guide sleeve travel mm : 586 guide sleeve travel mm : 5.55	cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 51.0 tolerance degree : + 4.0  control lever position degree : 115.0 tolerance degree : + 4.0  rack travel mm : 12.60 Rated speed rpm : 1095 Tolerance 1/min : + 5  rack travel mm : 4.00
Rated speed rpm : 300 guide sleeve travel mm : 1.30 Toterance mm : + 0.25  Rated speed rpm : 1107 guide sleeve travel mm : 6.75 Toterance mm : + 0.25  Rated speed rpm : 1050 guide sleeve travel mm : 6.00 Toterance mm : + 0.25  Rated speed rpm : 586 guide sleeve	cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 51.0 tolerance degree : + 4.0  control lever position degree : 115.0 tolerance degree : + 4.0  rack travel mm : 12.60 Rated speed rpm : 1095 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1155
Rated speed rpm : 300 guide sleeve travel mm : 1.30 Toterance mm : 40.25  Rated speed rpm : 1107 guide sleeve travel mm : 6.75 Toterance mm : 40.25  Rated speed rpm : 1050 guide sleeve travel mm : 6.00 Toterance mm : 40.25  Rated speed rpm : 586 guide sleeve travel mm : 5.55 Toterance mm : 5.55 Toterance mm : 5.55	cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 51.0 tolerance degree : + 4.0  control lever position degree : 115.0 tolerance degree : + 4.0  rack travel mm : 12.60 Rated speed rpm : 1095 Tolerance 1/min : + 5  rack travel mm : 4.00
Rated speed rpm : 300 guide sleeve travel mm : 1.30 Toterance mm : 40.25  Rated speed rpm : 1107 guide sleeve travel mm : 6.75 Toterance mm : 40.25  Rated speed rpm : 1050 guide sleeve travel mm : 6.00 Toterance mm : 40.25  Rated speed rpm : 586 guide sleeve travel mm : 5.55 Toterance mm : 5.55 Toterance mm : 40.25	cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 51.0 tolerance degree : + 4.0  control lever position degree : 115.0 tolerance degree : + 4.0  rack travel mm : 12.60 Rated speed rpm : 1095 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1155 Tolerance 1/min : + 15
Rated speed rpm : 300 guide sleeve travel mm : 1.30 Toterance mm : 40.25  Rated speed rpm : 1107 guide sleeve travel mm : 6.75 Toterance mm : 1050 guide sleeve travel mm : 6.00 Toterance mm : 6.00 Toterance mm : 586 guide sleeve travel mm : 5.55 Toterance mm : 5.55 Toterance mm : 6.025	cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 51.0 tolerance degree : + 4.0  control lever position degree : 115.0 tolerance degree : + 4.0  rack travel mm : 12.60 Rated speed rpm : 1095 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1155 Tolerance 1/min : + 15  rack travel mm : 0.50
Rated speed rpm : 300 guide sleeve travel mm : 1.30 Toterance mm : 40.25  Rated speed rpm : 1107 guide sleeve travel mm : 6.75 Toterance mm : 1050 guide sleeve travel mm : 6.00 Toterance mm : 40.25  Rated speed rpm : 6.00 Toterance mm : 586 guide sleeve travel mm : 5.55 Toterance mm : 5.55 Toterance mm : 6.00 Rated speed rpm : 636 guide sleeve travel mm : 6.60 guide sleeve travel mm : 6.60	cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 51.0 tolerance degree : + 4.0  control lever position degree : 115.0 tolerance degree : + 4.0  rack travel mm : 12.60 Rated speed rpm : 1095 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1155 Tolerance 1/min : + 15  rack travel mm : 0.50 Tolerance mm : + 0.50
Rated speed rpm : 300 guide sleeve travel mm : 1.30 Toterance mm : 40.25  Rated speed rpm : 1107 guide sleeve travel mm : 6.75 Toterance mm : 1050 guide sleeve travel mm : 6.00 Toterance mm : 6.00 Toterance mm : 586 guide sleeve travel mm : 5.55 Toterance mm : 5.55 Toterance mm : 6.025	cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 51.0 tolerance degree : + 4.0  control lever position degree : 115.0 tolerance degree : + 4.0  rack travel mm : 12.60 Rated speed rpm : 1095 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1155 Tolerance 1/min : + 15  rack travel mm : 0.50
Rated speed rpm : 300 guide sleeve travel mm : 1.30 Toterance mm : 40.25  Rated speed rpm : 1107 guide sleeve travel mm : 6.75 Toterance mm : 1050 guide sleeve travel mm : 6.00 Toterance mm : 40.25  Rated speed rpm : 6.00 Toterance mm : 586 guide sleeve travel mm : 5.55 Toterance mm : 5.55 Toterance mm : 6.00 Rated speed rpm : 636 guide sleeve travel mm : 6.60 guide sleeve travel mm : 6.60	cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  control lever position degree : 51.0 tolerance degree : + 4.0  control lever position degree : 115.0 tolerance degree : + 4.0  rack travel mm : 12.60 Rated speed rpm : 1095 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1155 Tolerance 1/min : + 15  rack travel mm : 0.50 Tolerance mm : + 0.50

		775
LOW IDLE		+ Pressure hPa : 225 + rack travel mm : 10.70
COM 1055		Tolerance mm : + 0.25
control lever	. 05 0	Pressure hPa : 595 rack travel mm : 12.20
position degree	. 05.0	
tolerance degree	: +- 4.0	Tolerance mm : + 0.05
control lever		Pressure hPa : 1250
position degree	: 20.0	rack travel mm : 13.60
tolerance degree	: +- 4.0	Tolerance mm : + 0.05
Testing:		Pressure hPa : 1450
		rack travel mm : 13.95
Rated speed rpm	: 300	+ Tolerance mm : +- 0.25
rack travel mm	: 6.75	+
rack travel mm Tolerance mm	: +- 0.10	
		+ START CUT-OUT
Rated speed rpm	: 200	Dated and and and and
CDT me min	. > 0 00	Rated speed rpm : < 220
CRT mm min.	: > 8.80	+ Check + speed 1/min : < 240
Rated speed rpm	: 300	speed 1/min : < 240
TODOUE CONTROL		+ FUEL DELIVERY CHARACTERISTICS
TORQUE CONTROL		Aneroid pressure
Rated speed rpm	: 1050	+ hPa : 1250
rack travel mm	: 13.60	Rated speed rpm : 800
Tolerance mm	: +- 0.05	Del. quantity
		+ cm3/1000 strokes : 234.0
Rated speed rpm	: 800	† Tölerance
rack travel mm Tolerance mm	: 13.60	+ cm3/1000 strokes : + 3.0
Tolerance mm	: +- 0.05	+ Check tolerance
	200	+  cm3/1000s. : + 6.0
Rated speed rpm	: 500	
rack travel mm	14.70	+ Aneroid pressure
Tolerance mm	: ← 0.05	thPa : -
		+ Rated speed rpm : 500 + Del. quantity
ANEROID/ALTITUDE		
COMPENSATOR TEST		Tolerance
COMPERSATION 1EST		- cm3/1000 strokes : +- 2.0
		- Check tolerance
SETTING		+ cm3/1000s. : +- 4.0
Datad sensel see	: 500	
Rated speed rpm Pressure hPa		+ BREAKAWAY
rack travel mm	: 14.70	TORCANAMI
Tolerance mm	: ← 0.05	$\mathbf{I}$
rocer direc mm	• • • • • • • • • • • • • • • • • • • •	Rack travel in mm: 12.60
MEASUREMENT		Rated speed rpm : 1095
Compared the Compared		+ Tolerance 1/min : + 5
Pressure hPa	: -	+
Rated speed rpm	: 500	+
rack travel mm	: 10.00	
Tolerance mm	: +- 0.20	+ STARTING FUEL DELIVERY
Rated speed rpm	: 500	Rated speed rpm : 100
vacca sheen thu	. 200	i nacea opeca i più i 100

rack travel mm : 20.50
Tolerance mm : +- 0.50
Del. quantity
cm3/1000 strokes : 274.0
Tolerance
cm3/1000 strokes : +- 10.0
Check tolerance
cm3/1000s. : +- 14.0

# LOW IDLE

Rated speed rpm 300 rack travel mm 6.75 : + 0.20 Tolerance mm Del. quantity cm3/1000 strokes : 38.0 Tolerance cm3/1000 strokes :  $\leftarrow$  5.0 Check tolerance cm3/1000s. 8.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 12.09.95 Test oil : ISO 4113

Combination No. : 0 402 646 657

Injection pump

Pump designation : PE6P130A320RS7368 EP type number : 0 412 636 836

Governor

Governer design. : RQV250...1125PA1210K

Governer no. : 0 421 815 460

Cust. part No. : 866737-P03 V. 05/95

Customer-spec. information Customer : PENTA

Motor : TAMD 122 P

Power KW : 426.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Vibration damper

(RoBo diaphragm) : 4.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 2.5
Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.45
Tolerance mm : + 0.05

test only :  $\leftarrow$  0.10

Rack travel in mm : 7.00 Tolerance mm : + 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.30

Check

tolerance °NW : +- 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1125

Rack travel in mm: 11.50Tolerance mm: + 0.05

Del. quantity cm3/1000 strokes	: 318.0	Rated speed rpm : 490 guide sleeve travel mm : 3.90
Tolerance cm3/1000 strokes	: + 1.5	Tolerance mm : + 0.25
Check tolerance cm3/1000s.	: + 5.0	Rated speed rpm : 1320 guide sleeve travel mm : 13.50
Spreed	-	Tolerance mm : + 0.50
Tolerance cm3/1000 strokes	: 9.0	GUIDE SLEEVE POSITION
Check tolerance cm3/1000s.	: 13.0	Rated speed rpm : 1200  Rack travel in mm : 10.50
Del. quantity cm3/1000 strokes	: 20.0	Tolerance mm : + 2.00
Tolerance cm3/1000 strokes	: + 3.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance cm3/1000s. Spreed Tolerance	: + 6.0	Rated speed rpm : 1125 Aneroid pressure hPa : 2000
cm3/1000 strokes Check tolerance	: 7.0	Del. quantity cm3/1000 strokes : 318.0
cm3/1000s.	: 11.0	Tolerance cm3/1000 strokes : + 1.5
(B) SETTING OF IN WITH GOVERNOR	NECTION PUMP	Check tolerance cm3/1000s. : + 5.0 Spreed Tolerance
GUIDE SLEEVE TRAV	EL	cm3/1000 strokes : 9.0 Check tolerance
Rated speed rpm	: 300	cm3/1000s. : 13.0
guide sleeve	+	
guide sleeve travel mm Tolerance mm	: 1.93 : +- 0.25	RATED SPEED
travel mm Tolerance mm Rated speed rpm guide sleeve	: 1.93 : +- 0.25 : 1157	control lever position degree : 70.0
travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 1.93 : + 0.25 : 1157 : 11.17 : + 0.25	<pre>control lever position degree : 70.0 tolerance degree : + 4.0 control lever</pre>
Travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	: 1.93 : + 0.25 : 1157 : 11.17 : + 0.25 : 823	control lever position degree : 70.0 tolerance degree : + 4.0
travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm	: 1.93 : + 0.25 : 1157 : 11.17 : + 0.25	control lever position degree : 70.0 tolerance degree : + 4.0  control lever position degree : 122.0 tolerance degree : + 4.0  rack travel mm : 10.50
Travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm Rated speed rpm	: 1.93 : + 0.25 : 1157 : 11.17 : + 0.25 : 823 : 7.14	control lever position degree : 70.0 tolerance degree : + 4.0  control lever position degree : 122.0 tolerance degree : + 4.0
Travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 1.93 : + 0.25 : 1157 : 11.17 : + 0.25 : 823 : 7.14 : + 0.25	control lever position degree : 70.0 tolerance degree : + 4.0  control lever position degree : 122.0 tolerance degree : + 4.0  rack travel mm : 10.50 Rated speed rpm : 1165 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1235
Travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	: 1.93 : + 0.25 : 11.17 : + 0.25 : 823 : 7.14 : + 0.25 : 325 : 2.31	control lever position degree : 70.0 tolerance degree : + 4.0  control lever position degree : 122.0 tolerance degree : + 4.0  rack travel mm : 10.50 Rated speed rpm : 1165 Tolerance 1/min : + 5  rack travel mm : 4.00
Travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Tolerance mm Tolerance mm	: 1.93 : + 0.25 : 1157 : 11.17 : + 0.25 : 823 : 7.14 : + 0.25 : 325 : 2.31 : + 0.25	control lever position degree : 70.0 tolerance degree : + 4.0  control lever position degree : 122.0 tolerance degree : + 4.0  rack travel mm : 10.50 Rated speed rpm : 1165 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1235 Tolerance 1/min : + 15

		+		
	<del></del>		Pressure hPa	: 1300
LOW IDLE			rack travel mm Tolerance mm	: 4.10 : + 0.20
		+ ,		
control lever	. (9.6		Pressure hPa	: 120
position degree	: 68.0	1	rack travel mm	: 0.25
tolerance degree	: +- 4.0	‡ '	Tolerance mm	: +- 0.05
control lever		+		
position degree		+ -	<del></del>	
tolerance degree	: +- 4.0	† F	FUEL DELIVERY CHA	RACTERISTICS
Testing:		Į a	Aneroid pressure	
-			nPa	: 2000
Rated speed rpm	: 260	À F	Rated speed rpm	: 700
rack travel mm	: 4.70		Del. quantity	
Tolerance mm		1 6	cm3/1000 strokes	: 315.0
			Tolerance	
Rated speed rpm	: 200		cm3/1000 strokes	: +- 3.0
and a place of the			Check tolerance	
CRT mm min.	:> 5.90		cm3/1000s.	: +- 6.0
VIVE HAD WELLS	3.70	•	Spreed	0.0
Dated speed spe	: 330	•	Tolerance	
Rated speed rpm	. 550		cm3/1000 strokes	: 10.0
				: 10.0
TORQUE CONTROL		•	Check tolerance	: 14.0
		<u> </u>		
Rated speed rpm	: 1125	À A	Aneroid pressure	
rack travel mm	: 11.50		1Pa	: 2000
Tolerance mm		,	Rated speed rpm	
			Del. quantity	
Rated speed rpm	: 700		m3/1000 strokes	: 280.0
rack travel mm	: 10.65	3	Tolerance	. 200.0
Tolerance mm	: + 0.15		m3/1000 strokes	: +- 3.0
roter arice nan	0.15		Check tolerance	5.0
Rated speed rpm	: 500		m3/1000s.	: +- 6.0
rack travel mm		T	MD/10003.	0.8
	: + 0.15	T	increased processes	
Tolerance mm	0.13		Ineroid pressure	
			nPa	. 500
ALIPONE /AL TERLAT			Rated speed rpm	: 500
ANEROID/ALTITUDE			Del. quantity	. 400.0
COMPENSATOR TEST			m3/1000 strokes	: 180.0
			olerance	
		,	m3/1000 strokes	: + 1.5
SETTING			heck tolerance	
		+ c	:m3/1000s.	: <del>←</del> 5.0
ated speed rpm	: 1125	+		
ressure hPa		+ -		·
ack travel mm	: 11.50	+ B	IREAKAWAY	
Tolerance mm	: ← 0.05	+		
		+		
MEASUREMENT			lack travel in mm	
		<b>∔</b> R	lated speed rpm	: 1165
Pressure hPa	: -		olerance 1/min	: +- 5
Rated speed rpm	: 500	1		-
rack travel mm	: 7.00	<b>1</b>		
Tolerance mm	: <b>←</b> 0.20	↓ -	<del></del>	
THE THE PERSON NAMED IN COLUMN		1 5	TARTING FUEL DELI	IVERY
Rated speed rpm	: 1125	1		
tated speed (MI)	• (1)	t		

Rated speed rpm : 100
rack travel mm : 7.00
Tolerance mm : + 0.20
Del. quantity
cm3/1000 strokes : 85.0
Tolerance
cm3/1000 strokes : + 15.0
Check tolerance
cm3/1000s. : + 20.0

## LOW IDLE

Del. quantity
cm3/1000 strokes : 20.0
Tolerance
cm3/1000 strokes : + 3.0
Check tolerance
cm3/1000s. : + 6.0
Spreed
Tolerance
cm3/1000 strokes : 7.0
Check tolerance
cm3/1000s. : 11.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 28.09.95 Test oil : ISO 4113

Combination No. : 0 402 736 889

Injection pump

Pump designation : PES6P120A120RS7390

EP type number : 0 412 726 945

Governor

Governer design. : RQV350...1100PA1244K

Governer no. : 0 421 815 477

Cust. part No. : 3282739

Customer-spec. information Customer : CUMMINS : 6CTAA Motor Power KW : 179.0

### TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temo. °C Tolerance °C : + 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5

Overflow quantity

min. L/h : 90 Toterance L/h : +- 10.0

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

bar : 208.5 Tolerance bar : +- 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0

x length mm : 600

#### REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

#### BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 2.90 Tolerance mm : +- 0.05

test only : +- 0.10

Rack travel in mm : 20.50 Tolerance mm : + 0.50

Firing order : 1-5-3-6-2-

: 4

: 0-60-120-180-240 Phasing

: -300 : + 0.30Tolerance

Check

tolerance "NW : +- 0.50

Start of delivery blocking

\*NW after s.o.d. : 10.50 Tolerance : +- 0.50

Check

: +- 0.75 tolerance °NW

Barrel no. : 1

#### BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm: 13.00

Tolerance mm : + 0.05	4700
Del. quantity	Rated speed rpm : 1380 quide sleeve
cm3/1000 strokes : 173.0	travel mm : 13.50
CIII 7 1000 311 0XC3 . 173.0	Tolerance mm : +- 0.50
Tolerance	Total and the
cm3/1000 strokes : + 1.0	
4	GUIDE SLEEVE POSITION
Check tolerance	
cm3/1000s. : + 4.0 +	Rated speed rpm : 1195
	m 1 · · · · · · · · · · · · · · · · · ·
Spreed	Rack travel in mm: 12.00
Tolerance cm3/1000 strokes : 5.0	Tolerance mm : +- 1.30
CIID/1000 Strokes : 3.0	
Check tolerance	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000s. : 9.0	
+	Rated speed rpm : 1100
Rated speed rpm : 350	Aneroid pressure
<del> </del>	hPa : 1500
Rack travel in mm: 4.60	Del. quantity
Tolerance mm : + 0.30 +	cm3/1000 strokes : 173.0
Del. quantity +	Tolerance
cm3/1000 strokes : 18.0	cm3/1000 strokes : +- 1.0
Tolerance +	Check tolerance
cm3/1000 strokes : + 3.0	
Check tolerance + 5.0 + 5.0	Spreed Tolerance
Spreed	cm3/1000 strokes : 5.0
Tolerance	Check tolerance
cm3/1000 strokes : 7.0	cm3/1000s. : 9.0
Check tolerance	
cm3/1000s. : 11.0	
+	RATED SPEED
+	
(B) SETTING OF INJECTION PUMP	
WITH GOVERNOR +	control lever
<b>T</b>	position degree : 68.0 tolerance degree : + 4.0
GUIDE SLEEVE TRAVEL	toterance begree . ** 4.8
TOTAL OFFICE LUMBER	control lever
Rated speed rpm : 350	position degree : 122.0
guide sleeve	tolerance degree : +- 4.0
travel mm : 1.93	
Tolerance mm : + 0.20	rack travel mm : 12.00
+	Rated speed rpm : 1145
Rated speed rpm : 1159	Tolerance 1/min : +- 5
guide steeve	and through the control of the contr
travel mm : 10.27	rack travel mm : 4.00
Tolerance mm : + 0.15	Rated speed rpm : 1230 Tolerance 1/min : ← 15
Rated speed rom : 710	Toterance Thirth . The 13
guide sleeve	rack travel mm : 0.50
travel mm : 5.79	Tolerance mm : + 0.50
Tolerance mm : + 0.25	Rated speed rpm : 1350
1	
Rated speed rpm : 420	
guide sleeve	LOW IDLE
travel mm : 4.28	
Tolerance mm : + 0.25	

control lever position degree tolerance degree	: 74.0 : +- 4.0	Pressure hPa : 300 rack travel mm : 12.60 Tolerance mm : + 0.05
control lever position degree tolerance degree		START CUT-OUT
Testing:		Rated speed rpm : < 290 Check speed 1/min : < 300
Rated speed rpm rack travel mm Tolerance mm	: 4.60	FUEL DELIVERY CHARACTERISTICS
Rated speed rpm	: 250	Aneroid pressure
CRT mm min.	: > 7.50	hPa : 1500 Rated speed rpm : 700 Del. quantity
Rated speed rpm	: 350	+ cm3/1000 strokes : 171.0 + Tolerance
TORQUE CONTROL		cm3/1000 strokes : +- 3.0 + Check tolerance + cm3/1000s. : +- 6.0
Rated speed rpm rack travel mm		+ Spreed + Tolerance
Tolerance mm		cm3/1000 strokes : 8.0 Check tolerance
Rated speed rpm rack travel mm	: 13.15	+ cm3/1000s. : 12.0
Tolerance mm		Aneroid pressure hPa : -
Rated speed rpm rack travel mm Tolerance mm	: 12.25	Rated speed rpm : 500  Del. quantity  cm3/1000 strokes : 109.0
		Tolerance + cm3/1000 strokes : + 2.0
ANEROID/ALTITUDE COMPENSATOR TEST		Check tolerance cm3/1000s. : + 4.0
SETTING		BREAKAWAY
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 700 : 1500 : 13.20 : ← 0.05	Rack travel in mm : 12.00 Rated speed rpm : 1145 Tolerance 1/min : + 5
MEASUREMENT		
Pressure hPa Rated speed rom rack travel mm Tolerance mm	: 700 : 10.20 : +- 0.20	STARTING FUEL DELIVERY  Rated speed rpm : 100  rack travel mm : 20.50
Rated speed rpm	: 700	Tolerance mm : + 0.50  Del. quantity
Pressure hPa rack travel mm Tolerance mm	: 140 : 11.10 : +- 0.20	cm3/1000 strokes : 255.0 Tolerance cm3/1000 strokes : +- 20.0

Check tolerance cm3/1000s. : + 24.0

## LOW IDLE

Rated speed rpm : 350 rack travel mm : 4.60 Tolerance mm : +- 0.30 Del. quantity cm3/1000 strokes : 18.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : +- 5.0 Spreed Tolerance cm3/1000 strokes : 7.0 Check tolerance cm3/1000s. : 11.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 27.09.95 Test oil : ISO 4113

Combination No. : 0 402 746 603

Injection pump

Pump designation : PES6P120A320RS7359

EP type number : 0 412 726 925

Governor

Governer design. : RQ275/1050PA999-7

Governer no. : 0 421 801 799

Cust. part No. : CCEP 5153 66-224

Customer-spec. information

Customer : RVI

Motor : MIHR062045 A41

Power KW : 185.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40 Tolerance °C : +- 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5 Tolerance bar : +- 0.1

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.70 Tolerance mm : +- 0.05

test only  $: \leftarrow 0.10$ 

Rack travel in mm: 20.25
Tolerance mm: + 0.75

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

1.0

Tolerance :  $\leftarrow$  0.30

Check

tolerance "NW :  $\leftarrow$  0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 600

Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 191.0

Tolerance

cm3/1000 strokes : +-

Check tolerance

cm3/1000s. :  $\leftarrow$  4.0

Spreed

Tolerance	+
cm3/1000 strokes : 5.0	GUIDE SLEEVE POSITION
Check tolerance cm3/1000s. : 9.0	Rated speed rpm : 600
Rated speed rpm : 275	Rack travel in mm : 20.00 Tolerance mm : +- 0.80
Rack travel in mm : -5.70	+
Tolerance $m_0$ : $\leftarrow$ 0.20	
Del. quantity	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000 strokes : 34.0	+
Tolerance	+ Rated speed rpm : 600
cm3/1000 strokes : +- 2.0	+ Aneroid pressure
Check tolerance	+ hPa : 1000
cm3/1000s. : +- 5.0	+ Del. quantity
Spreed	+ cm3/1000 strokes : 191.0
Tolerance	† Tolerance
cm3/1000 strokes : 8.0	+ cm3/1000 strokes : + 1.0
Check tolerance	† Check tolerance
cm3/1000s. : 12.0	+ cm3/1000s. : $+$ 4.0
	+ Spreed
	+ Tolerance
(B) SETTING OF INJECTION PUMP	+ cm3/1000 strokes : 5.0
WITH GOVERNOR	+ Check tolerance
	+ cm3/1000s. : 9.0
	<u> </u>
GUIDE SLEEVE TRAVEL	OATER ORES
D. A. d. marchane (2775)	+ RATED SPEED
Rated speed rpm : 275	†
guide sleeve	†
travel mm : 1.75	the control lever
Tolerance mm : + 0.20	position degree : 274.0
Rated speed rpm : 1145	† tolerance degree : + 4.0
· · · · · · · · · · · · · · · · · · ·	+ rack travel mm : -1.00
guide sleeve travel mm : 6.55	
	+ Rated speed rpm : 1138 + Tolerance 1/min : + 5
Tolerance mm : +- 0.15	Toterance min : + 3
Rated speed rpm : 1050	rack travel mm : -8.70
	Rated speed rpm : 1265
guide sleeve travel mm : 6.00	+ Tolerance 1/min : +- 15
Tolerance mm : + 0.10	T Total ance Daille . 4- 15
TOTES GIVE HAD . TO U. IO	T rack travel mm : -12.20
Rated speed rpm : 594	+ Tolerance mm : + 0.50
guide sleeve	Rated speed rpm : 1375
travel mm : 5.11	T Mateu speed (pm) . 15/5
Tolerance mm : + 0.10	
rocer ance may	LOW IDLE
Rated speed rpm : 720	1
guide sleeve	1
travel mm : 6.00	+ control lever
Tolerance mm : + 0.10	position degree : 255.0
	+ tolerance degree : +- 4.0
Rated speed rpm : 1380	+
guide steeve	+ Testing:
travel mm : 11.50	+
Tolerance mm : +- 0.50	Rated speed rpm : 275
200.000	+ rack travel mm : -5.70
	+ Tolerance mm : + 0.10
	•

rack travel mm Rated speed rpm Tolerance 1/min Rated speed rpm CRT mm min.  TORQUE CONTROL Rated speed rpm Tolerance mm	: 585 : ← 20 : 175 : > -3.80 : 600	+++++++++++++++++++++++++++++++++++++++	Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: ← 6.0 : 500 : 156.0 : + 1.0
Rated speed rpm Tolerance mm	: 1050 : + 0.10	+ · + ·	BREAKAWAY	
ANEROID/ALTITUDE COMPENSATOR TEST		+ 1	Rack travel in mm Rated speed rpm Tolerance 1/min	: 1138
SETTING		Ţ.,		
Rated speed rpm Pressure hPa	: 500 : 1000	+	STARTING FUEL DEL	
MEASUREMENT		+ -	rack travel mm Tolerance mm Del. quantity	: 20.25 : +- 0.75
Pressure hPa Rated speed rpm	:		cm3/1000 strokes Tolerance	: 145.0
rack travel mm	: -1.10	•	cm3/1000 strokes	: +- 15.0
Tolerance mm	: ← 0.20		Check tolerance cm3/1000s.	: ÷- 19.0
Rated speed rpm	: 500	<u> </u>	CM3/ TUGUS.	: +- 19.0
Pressure hPa	: 140	+		
rack travel mm Tolerance mm	: -0.66 : + 0.15	<u> </u>	LOW IDLE	
Pressure hPa	: 200		Rated speed rpm	: 275
rack travel mm Tolerance mm	: -0.25 : +- 0.05		rack travel mm Tolerance mm	: -5.70 : +- 0.20
TO CET OF ICE THAN	0.05	+ 1	Del. quantity	
START CUT-OUT		+ 7	cm3/1000 strokes Tolerance	: 34.0
Rated speed rpm	: < 195		cm3/1000 strokes Check tolerance	: +- 2.0
Check		+ 0	cm3/1000s.	: +- 5.0
speed 1/min	: < 215		Spreed Tolerance	
FUEL DELIVERY CHA	ARACTERISTICS		cm3/1000 strokes Check tolerance	: 8.0
	<del></del>		cm3/1000s.	: 12.0
Aneroid pressure hPa	: 1000	<u> </u>		
Rated speed rpm		+		
Del. quantity cm3/1000 strokes	: 198.0	+ -		

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 11.10.95 Edition : ISO 4113 Test oil

Combination No. : 0 401 876 804

Injection pump

Pump designation : PE6P12OA32ORS3339 EP type number : 0 411 826 812

Governor

Governer design. : RSV325...1400P0A590

Governer no. : 0 421 833 450

Cust. part No. : 3825199-P06 v. 9/95

Customer-spec. information Customer : PENTA : TAMD63 L Motor

: 228.0 Power KW

#### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 Tolerance °C 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : Tolerance bar : +-0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 bar : +- 1.5 Tolerance bar

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

#### REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : +-

Prestroke mm 3.55 : + 0.05 Tolerance mm

: + 0.10test only

Rack travel in mm: 6.40 Tolerance mm: +-0.50

: 1-5-3-6-2-Firing order

: 4

Phasing : 0-60-120-180-240

: -300

: +- 0.30 Tolerance

Check

: +- 0.75 tolerance "NW

Start of delivery mark

Barrel no.

#### BASIC SETTING

Rated speed rpm 1000

Rack travel in mm : 8.90 Tolerance mm : ← 0.05

Del. quantity

cm3/1000 strokes : 141.0

Toterance

cm3/1000 strokes :  $\leftarrow$  1.0

Check tolerance

cm3/1000s. : +--4.0

	<b>**</b>
Spreed	+ control lever
Tolerance	position degree : 68.0
cm3/1000 strokes : 5.0	tolerance degree : + 4.0
Check tolerance	↓ control lever
cm3/1000s. : 9.0	position degree : 118.0
	tolerance degree : + 4.0
Del. quantity	+
cm3/1000 strokes : 23.0	rack travel mm : 7.90
Tolerance	Rated speed rpm : 1470
cm3/1000 strokes : + 3.0	+ Tolerance 1/min : + 5
Check tolerance	
cm3/1000s. : +- 6.0	rack travel mm : 4.00
Spreed	+ Rated speed rpm : 1530
Tolerance	Tolerance 1/min : +- 15
cm3/1000 strokes : 5.0	+
Check tolerance cm3/1000s. : 8.0	+ rack travel mm : 0.85
cm3/1000s. : 8.0	+ Tolerance mm : +- 0.55
	+ Rated speed rpm : 1630
	+
(B) SETTING OF INJECTION PUMP	
WITH GOVERNOR	+ LOW IDLE
	†
	<b>†</b>
	+ control lever
GUIDE SLEEVE POSITION	+ position degree : 82.0
~	+ tolerance degree : +- 4.0
Rated speed rpm : 800	
One of the second second of the second of th	+ control lever
Rack travel in mm: 0.55	+ position degree : 32.0
Tolerance mm : + 0.25	tolerance degree : + 4.0
	Contribute maint of and because and
governor spring pre-tension	+ Setting point w/out bumper spring
click setting x : 5.00	I Pated speed now : 325
ttick setting x . 5.00	+ Rated speed rpm : 325 + rack travel mm : 3.30
	T Tack Clavel May . 3.30
FULL LOAD DELIVERY AT FULL LOAD STOP	Testing:
TOME SOUR SERVICES IN THE SOUR STATE	
Rated speed rpm : 1000	+ Rated speed rpm : 325
Aneroid pressure	+ rack travel mm : 3.80
hPa : 2000	Rated speed rpm : 325 rack travel mm : 3.80 Tolerance mm : + 0.20
Del. quantity	<del>†</del>
cm3/1000 strokes : 141.0	rack travel mm : 2.00
Tolerance	Rated speed rpm : 460
cm3/1000 strokes : +- 1.0	+ Tolerance 1/min : + 30
Check tolerance	+
Check tolerance cm3/1000s. : +- 4.0	
Spreed	TORQUE CONTROL
Tolerance	+
cm3/1000 strokes : 5.0	Rated speed rpm : 1000
Check tolerance	rack travel mm : 8.90 Tolerance mm : + 0.05
cm3/1000s. : 9.0	+ Tolerance mm : +- 0.05
	+
	Rated speed rpm : 1400
RATED SPEED	rack travel mm : 8.90 Tolerance mm : +- 0.10
	+ Tolerance mm : +- 0.10
	+
	†

## ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

500 Rated speed rpm 2000 Pressure hPa 8.90 rack travel mm Tolerance mm : +- 0.05

### **MEASUREMENT**

Pressure hPa Rated speed rpm 500 rack travel ma 6.50 : + 0.10Tolerance inm

Rated speed rpm : 500

850 Pressure hPa rack travel mm 2.00 : + 0.15Tolerance mm

490 Pressure hPa 0.25 rack travel mm Tolerance mm : **←** 0.05

### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

2000 0 1400 Rated speed rpm Del. quantity

cm3/1000 strokes : 128.0

Tolerance

cm3/1000 strokes : +-3.0

Check tolerance

cm3/1000s. 6.0

Aneroid pressure

hPa 500 Rated speed rom Del. quantity

cm3/1000 strokes : 93.0

Tolerance

cm3/1000 strokes : +-1.0

Check tolerance

cm3/1000s.4.0

#### BREAKAWAY

Rack travel in mm: 7.90 Rated speed rpm : 1470

Tolerance 1/min : +-5

#### STARTING FUEL DELIVERY

100 Rated speed rpm rack travel mm 12.00 : Tolerance mm : **←** 0.25

### LOW IDLE

Del. quantity cm3/1000 strokes : 23.0 Tolerance 3.0

cm3/1000 strokes : +-

Check tolerance cm3/1000s. : +-6.0 Spreed

Tolerance

5.0 cm3/1000 strokes :

Check tolerance

cm3/1000s. 8.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 11.10.95 Test oil : ISO 4113

Combination No. : 0 401 876 809

Injection pump

Pump designation : PE6P12OA32ORS3355 EP type number : 0 411 826 814

Governor

Governer design. : RSV325...1200P1A605

Governer no. : 0 421 833 487

Cust. part No. : 3825834 PO3 v. 9/95

Customer-spec. information Customer : PENTA Motor : TWD731ME Power KW : 175.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40 Tolerance °C : +- 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

#### REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.45
Tolerance mm : + 0.05

test only :  $\leftarrow$  0.10

Rack travel in mm: 7.40
Tolerance mm: + 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.30

Check

tolerance 'NW : + 0.75

Start of delivery mark

Barrel no. : 1

#### BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 10.60 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 126.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance cm3/1000s. : +- 4.0

Spreed Tolerance cm3/1000 strokes : 7.0	RATED SPEED
Check tolerance cm3/1000s. : 11.0	<pre>control lever position degree : 71.0 tolerance degree : +- 4.0</pre>
Rated speed rpm : 325	control lever
Rack travel in mm: 4.40 Tolerance mm: + 0.20 Del. quantity	position degree : 121.0 tolerance degree : + 4.0
cm3/1000 strokes : 24.0 +	rack travel mm : 9.60 Rated speed rpm : 1235
cm3/1000 strokes : + 2.5 + Check tolerance	Tolerance 1/min : +- 5
cm3/1000s. : + 5.0 Spreed Tolerance	rack travel mm : 4.00 Rated speed rpm : 1280 Tolerance 1/min : + 15
cm3/1000 strokes : 3.0 +	rack travel mm : 0.85
cm3/1000s. : 6.0	Tolerance mm : +- 0.55 Rated speed rpm : 1400
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	LOW IDLE
GUIDE SLEEVE POSITION	control lever position degree : 81.0
Rated speed rpm : 800	tolerance degree : +- 4.0
+	control lever
Rack travel in mm: 0.85 Tolerance mm: + 0.55	position degree : 31.0 tolerance degree : + 4.0
governor spring pre-tension	Setting point w/out bumper spring
click setting x : 6.00	Rated speed rpm : 325 rack travel mm : 3.90
FULL LOAD DELIVERY AT FULL LOAD STOP	Testing:
Rated speed rpm : 1200 Aneroid pressure hPa : 1500	Rated speed rpm : 325 rack travel mm : 4.40 Tolerance mm : + 0.10
Del. quantity cm3/1000 strokes : 126.0	rack travel mm : 2.00
Tolerance cm3/1000 strokes : + 1.0	Rated speed rpm : 390 Tolerance 1/min : +- 30
Check tolerance cm3/1000s. : +- 4.0 +- Spreed	TORQUE CONTROL
Tolerance + cm3/1000 strokes : 7.0 +	Rated speed rpm : 1200
Check tolerance cm3/1000s. : 11.0	rack travel mm : 10.60 Tolerance mm : + 0.05
<del> </del>	Rated speed rpm : 700

10.60 rack travel mm 0.10 Tolerance mm ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm 500 1500 Pressure hPa 10.60 rack travel mm : +- 0.05 Tolerance mm MEASUREMENT Pressure hPa 500 Rated speed rpm 7.80 rack travel mm Tolerance mm 0.10 Rated speed rpm 500 Pressure hPa 850 rack travel mm 2.50 Tolerance mm 0.15 Pressure hPa 260 0.25 rack travel mm Tolerance mm : +- 0.05 FUEL DELIVERY CHARACTERISTICS Aneroid pressure 1500 hPa 700 Rated speed rpm Del. quantity cm3/1000 strokes : 148.5 Tolerance cm3/1000 strokes 3.0 Check tolerance cm3/1000s. 6.0 Spreed Tolerance 7.0 cm3/1000 strokes Check tolerance 11.0 cm3/1000s. Aneroid pressure hPa 500 Rated speed rpm

87.0

1.0

4.0

: +--

BREAKAWAY

Rack travel in mm: 9.60
Rated speed rpm: 1235
Tolerance 1/min: +- 5

LOW IDLE

325 Rated speed rpm 4.40 rack travel mm Tolerance mm 0.20 Del. quantity cm3/1000 strokes : 24.0 Tolerance cm3/1000 strokes 2.5 Check tolerance cm3/1000s. : +-5.0 Spreed Tolerance cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. 6.0

End of test specification sheet

Del. quantity cm3/1000 strokes :

cm3/1000 strokes

Check tolerance cm3/1000s.

Tolerance

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 11.10.95 Test oil : ISO 4113

Combination No. : 0 401 876 810

Injection pump

Pump designation : PE6P12OA32ORS3359 EP type number : 0 411 826 815

Governor

Governer design. : RSV325...1200P1A615 Governer no. : 0 421 833 503

Cust. part No. : 3825515 PO1 v. 5/95

Customer-spec. information Customer : PENTA : TD 730ME Motor

Power KW : 150.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

40 temp. °C Tolerance °C 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 bar Tolerance bar

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.35 : +- 0.05 Tolerance mm

test only : + 0.10

Rack travel in mm: 9.00 Tolerance mm: +- 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : **←** 0.30

Check

tolerance \*NW : ← 0.75

Start of delivery mark

Barrel no.

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm: 11.10 : +- 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 130.0

Tolerance

cm3/1000 strokes :  $\leftarrow$  1.0

Check tolerance

cm3/1000s. : +- 4.0

Spreed	DATES COPES
Tolerance	RATED SPEED
cm3/1000 strokes : 7.0	
Check to lerance	control lever
cm3/1000s. : 11.0	position degree : 71.0
T	tolerance degree : +- 4.0
Rated speed rpm : 325	toter ante degree . *- 4.0
Rated speed (pill : 323	control lever
Rack travel in mm: $4.40$	position degree : 118.0
Tolerance mm : + 0.20	tolerance degree : +- 4.0
Del. quantity	cotol di luc degi ec
cm3/1000 strokes : 30.0	rack travel mm : 10.10
Tolerance	Rated speed rpm : 1235
cm3/1000 strokes : +- 2.5	Tolerance 1/min : + 5
Check tolerance	
cm3/1000s. : +- 5.0 +	rack travel mm : 4.00
Spreed	Rated speed rpm : 1280
Tolerance	Tolerance 1/min : + 15
cm3/1000 strokes : 3.0	
Check tolerance	rack travel mm : 0.85
cm3/1000s. : 6.0	Tolerance mm : + 0.55
+	Rated speed rpm : 1400
+	
(B) SETTING OF INJECTION PUMP	
WITH GOVERNOR +	LOW IDLE
+	
<del>†</del>	
	control lever
GUIDE SLEEVE POSITION	position degree : 79.0
Dathard annual man a 900	tolerance degree : +- 4.0
Rated speed rpm : 800	control lever
Rack travel in mm: 0.85	position degree : 31.0
Tolerance mm : +- 0.55	tolerance degree : +- 4.0
Toterarice iiii	toterance degree . +- 4.0
governor spring	Setting point w/out bumper spring
pre-tension +	secting better avour pumper spiritig
click setting x : 6.00	Rated speed rpm : 325
1	rack travel mm : 3.90
	1000 61000 1100
FULL LOAD DELIVERY AT FULL LOAD STOP	Testing:
Rated speed rpm : 1200	Rated speed rpm : 325
Aneroid pressure +	rack travel mm : 4.40
hPa : 1500 +	Tolerance mm : +- 0.10
Del. quantity +	
cm3/1000 strokes : 130.0 +	rack travel mm : 2.00
Tolerance +	Rated speed rpm : 390
cm3/1000 strokes : + 1.0 +	Tolerance 1/min : ← 30
Check tolerance +	
cm3/1000s. : + 4.0 +	
Spreed	TORQUE CONTROL
Tolerance	
cm3/1000 strokes : 7.0	Rated speed rpm : 1200
cm3/1000 strokes : 7.0 + Check tolerance +	Rated speed rpm : 1200 rack travel mm : 11.10
cm3/1000 strokes : 7.0	Rated speed rpm : 1200
cm3/1000 strokes : 7.0 + Check tolerance +	Rated speed rpm : 1200 rack travel mm : 11.10

rack travel mm Tolerance mm	: + 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 1500 : 11.00 : ← 0.05
MEASUREMENT	
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 500 : 8.80 : + 0.10
Rated speed rpm	: 500
Pressure hPa rack travel mm Tolerance mm	: 770 : 1.85 : + 0.15
Pressure hPa rack travel mm Tolerance mm	: 390 : 0.25 : + 0.05
rack travel mm	: 0.25 : + 0.05
rack travel mm Tolerance mm  FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm	: 0.25 : + 0.05
rack travel mm Tolerance mm  FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes	: 0.25 : + 0.05 RACTERISTICS  : 1500 : 700
rack travel mm Tolerance mm  FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: 0.25 : + 0.05 RACTERISTICS  : 1500 : 700
rack travel mm Tolerance mm  FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed	: 0.25 : + 0.05 RACTERISTICS  : 1500 : 700 : 150.0
rack travel mm Tolerance mm  FUEL DELIVERY CHA  Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes	: 0.25 : + 0.05 RACTERISTICS  : 1500 : 700 : 150.0 : + 3.0
rack travel mm Tolerance mm Tolerance mm  FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance	: 0.25 : + 0.05 RACTERISTICS  : 1500 : 700 : 150.0 : + 3.0 : + 6.0
rack travel mm Tolerance mm  FUEL DELIVERY CHA  Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm	: 0.25 : + 0.05 RACTERISTICS  : 1500 : 700 : 150.0 : + 3.0 : + 6.0 : 7.0
rack travel mm Tolerance mm Tolerance mm FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes	: 0.25 : + 0.05 RACTERISTICS  : 1500 : 700 : 150.0 : + 3.0 : + 6.0 : 7.0 : 11.0
rack travel mm Tolerance mm Tolerance mm  FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity	: 0.25 : + 0.05 RACTERISTICS  : 1500 : 700 : 150.0 : + 3.0 : + 6.0 : 7.0 : 11.0 : - : 500

## BREAKAWAY

Rack travel in mm : 10.10
Rated speed rpm : 1235
Tolerance 1/min : +- 5

## LOW IDLE

Rated speed rpm : rack travel mm : 325 4.40 Tolerance mm : + 0.20 Del. quantity cm3/1000 strokes : 30.0 Tolerance cm3/1000 strokes : +-2.5 Check tolerance cm3/1000s. 5.0 Spreed Tolerance cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. 6.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 10.10.95 Test oil : ISO 4113

Combination No. : 0 402 048 705

Injection pump

Pump designation : PES8P120A320RS3199

EP type number : 0 412 028 705

Governor

Governer design. : RQV275...1050PA665 Governer no. : 0 421 813 370

Cust. part No.

Customer-spec. information : RVI Customer

Motor : MIVRO83530

Power KW : 320.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C 2.0 Tolerance \*C

: 1 417 413 025 Overflow valve

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 019 assembly

Opening pressure

208.5 Tolerance bar : +- 1.5

: 1 680 750 075 Test lines

Outside diameter : 8.0 x inside diameter : 3.0 : 1000 x length mm

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : + 1.0

3.55 Prestroke mm : +- 0.05 Tolerance mm

: + 0.10test only

Rack travel in mm: 10.50 Tolerance mm : +- 1.50

: 1-8-4-2-7 Firing order

: - 3- 6- 5

Phasing : 0-45-90-135-180 : -225-270-315

: +- 0.30 Tolerance

Check

tolerance °NW : +- 0.50

Start of delivery mark

\*NW after s.o.d. : 13.00

1 Barrel no. :

BASIC SETTING

Rated speed rpm : 1050

Del. quantity cm3/1000 strokes :

203.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +-4.0

Spreed	1	
Tolerance	<u> </u>	Rack travel in mm : 10.45
cm3/1000 strokes	: 5.0	Tolerance mm : + 1.30
	<u> </u>	
Check tolerance		
cm3/1000S.	: 9.0 +	FULL LOAD DELIVERY AT FULL LOAD STOP
	+	
Rated speed rpm	: 275	Rated speed rpm : 1050
Rack travel in mm	: -7.50	Aneroid pressure hPa : 700
Tolerance man	÷ + 0.10	Del. quantity
Del. quantity	Ţ	cm3/1000 strokes : 203.0
cm3/1000 strokes	: 20.0	Tolerance
Tolerance	+	cm3/1000 strokes : +- 1.0
cm3/1000 strokes	: ← 3.0 <b>+</b>	Check tolerance
Check tolerance	+	cm3/1000s. : $+-$ 4.0
cm3/1000s.	: + 6.0	Spreed
Spreed	†	Tolerance
Tolerance		cm3/1000 strokes : 5.0
cm3/1000 strokes Check tolerance	: 8.0	Check tolerance cm3/1000s. : 9.0
cm3/1000s.	: 12.0	(IID/10003. : 9.0
CIBS/ 10003.		
	4.	RATED SPEED
(B) SETTING OF INJ	JECTION PUMP	
WITH GOVERNOR	+	
	†	control lever
CHINE CLEEVE TOAK		position degree : 65.0 tolerance degree : +- 4.0
GUIDE SLEEVE TRAVE	I	tolerance degree : +- 4.0
Rated speed rpm	: 275	control lever
guide sleeve	+	position degree : 300.0
travel mm	: 0.89	tolerance degree : + 4.0
Toterance mm	: + 0.20 +	
<b>6</b>	4435	rack travel mm : -1.00
Rated speed rpm	: 1135	Rated speed rpm : 1120 Tolerance 1/min : +- 5
guide sleeve travel mm	: 8.32	Toterance Timin : +- 3
Tolerance mm	: ÷ 0.15 +	rack travel mm : -7.45
TOCCT CITICO IIIII		Rated speed rpm : 1225
Rated speed rpm	: 781	Tolerance 1/min : + 15
guide sleeve	<u> </u>	
travel mm	: 5.68	rack travel mm : -10.95
Tolerance mm	: +- 0.25 +	Tolerance mm : + 0.50
5-AII	. (89	Rated speed rpm : 1350
Rated speed rpm	: 480	
guide sleeve travel mm	: 3.60	LOW IDLE
Tolerance mm	: + 0.25	COM INCE
100010100	+	
Rated speed rpm	: 1430	control lever
guide steeve	+	position degree : 245.0
travel mm	: 11.50	tolerance degree : +- 4.0
Tolerance mm	: + 0.50	control lover
		control lever position degree : 10.0
GUIDE SLEEVE POSIT	TON	tolerance degree : +- 4.0
GOINE REFERE LASTI	1	tota, and degree The
Rated speed rpm	: 1250	Testing:
	<b>,</b>	

Rated speed rpm	: 200	+ Aneroid pressure + hPa : -
CRT mm max.	: < -5.80	Rated speed rpm : 500  Del. quantity
Rated speed rpm	: 343	cm3/1000 strokes : 111.0
TORQUE CONTROL		+ cm3/1000 strokes : +- 1.0
Rated speed rpm	: 1050	+ Check tolerance + cm3/1000s. : + 4.0
Rated speed rpm	: 650	BREAKAWAY
ANEROID/ALTITUDE COMPENSATOR TEST		Rack travel in mm: -1.00 Rated speed rpm: 1120 Tolerance 1/min: + 5
SETTING		
Rated speed rpm Pressure hPa	: 500 : 700	STARTING FUEL DELIVERY
MEASUREMENT		Rated speed rpm : 100  Del. quantity  cm3/1000 strokes : 175.0
Pressure hPa Rated speed rpm rack travel mm	: : 500	Tolerance cm3/1000 strokes : +- 15.0
rack travel mm Tolerance mm		Check tolerance + cm3/1000s. : +- 19.0
Rated speed rpm	: 500	†
Pressure hPa rack travel mm Tolerance mm	: -1.90	LOW IDLE
Pressure hPa rack travel mm Tolerance mm	: -0.75	Rated speed rpm : 275 rack travel mm : -7.50 Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 20.0
START CUT-OUT		Tolerance cm3/1000 strokes : +- 3.0 Check tolerance
Rated speed rpm Check	: < 195	cm3/1000s. : +- 6.0 + Spreed
speed 1/min	: < 215	Tolerance cm3/1000 strokes : 8.0
FUEL DELIVERY CHA	ARACTERISTICS	theck tolerance cm3/1000s. : 12.0
Aneroid pressure hPa Rated speed rpm	: 700 : 650	
Del. quantity cm3/1000 strokes Tolerance		End of test specification sheet
cm3/1000 strokes Check tolerance	: +- 4.0	‡
cm3/1000s.	: ← 7.0	1

# BOSCH INJ. PUMP TEST SPECIFICATIONS Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 09.10.95 Test oil : ISO 4113

Combination No. : 0 402 646 644

Injection pump

Pump designation : PE6P12OA32ORS7319 EP type number : 0 412 626 914

Governor

Governer design. : RQV300...1400PA1124 Governer no. : 0 421 814 086

Cust. part No. : 866633 PO3 5.10.95

Customer-spec. information Customer : PENTA Motor : TAMD 63 Power KW : 265.0

#### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. \*C : 40 Tolerance \*C : + 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 1.5
Tolerance bar : +- 0.1

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.65Tolerance mm :  $\leftarrow 0.05$ 

test only : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance :  $\leftarrow$  0.30

Check

tolerance \*NW : +- 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 12.90
Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes : 241.0

Tolerance

cm3/1000 strokes : +- 1.0

H07

Check tolerance	guide sleeve
cm3/1000s. : +- 4.0	travel mm : 10.00
	├ Tolerance min : ← 0.25
Spreed	+
Tolerance	Rated speed rpm : 1760
cm3/1000 strokes : 8.0	guide sleeve
	travel mm : 11.50
Check tolerance	Tolerance mm : + 0.50
cm3/1000s. : 11.0	1 Total differ than
CHIST 10005	
Del. quantity	GUIDE SLEEVE POSITION
cm3/1000 strokes : 23.0	doing Steene LOSTLION
	Data danced and ACCO
Tolerance	Rated speed rpm : 1640
cm3/1000 strokes : + 3.0	
Check tolerance	Rack travel in mm : 9.00
$cm3/1000s.$ : $\leftarrow$ 5.0	Tolerance mm : + 3.00
Spreed -	<del> </del>
Tolerance	
cm3/1000 strokes : 5.0 -	FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance -	
cm3/1000s. : 8.0	Rated speed rpm : 1000
•	Aneroid pressure
	hPa : 2000
(B) SETTING OF INJECTION PUMP	Del. quantity
WITH GOVERNOR -	cm3/1000 strokes : 241.0
MILLI GOSCULON	Tolerance
	cm3/1000 strokes : +- 1.0
CHIDE SLEEVE TRAVEL	
GUIDE SLEEVE TRAVEL -	Check tolerance
700	cm3/1000s. : +- 4.0
Rated speed rpm : 300	Spreed
guide steeve	Tolerance
travel mm : 1.24 -	cm3/1000 strokes : 8.0
Tolerance mm : +- 0.25 -	- Check tolerance
<del>-</del>	cm3/1000s. : 11.0
Rated speed rpm : 1456 -	-
guide sleeve	
travel mm : 7.69	RATED SPEED
Tolerance mm : +- 0.25	-
•	
Rated speed rpm : 1170	control lever
guide sleeve	position degree : 54.0
travel mm : 5.67	tolerance degree : +- 4.0
Tolerance mm : + 0.25	
रच्चच्चा ज्यारकच्च ।शहर है . चार्चच्चन्य स	control lever
Rated speed rpm : 448	position degree : 118.0
guide sleeve	tolerance degree : +- 4.0
travel mm : 2.83	Local direct degree
Tolerance mm : +- 0.25	rack travel mm : 12.30
TOLERANCE INIT	- Rated speed rpm : 1440
Defend amond man 4 /00	
Rated speed rpm : 498	- Tolerance 1/min : +- 5
guide sleeve	
travel mm : 3.20	- rack travel mm : 4.00
Tolerance mm : +- 0.25	- Rated speed rpm : 1570
4	- Tolerance 1/min : + 15
Rated speed rpm : 690	
guide sleeve	- rack travel mm : 0.50
travel mm : 3.68	- Tolerance mm : + 0.50
Tolerance mm : +- 0.25	- Rated speed rpm : 1650
4	
· · · · · · · · · · · · · · · · · · ·	
Rated speed rpm : 1638	•

		1 200
LOW IDLE		Pressure hPa : 430 rack travel mm : 0.25 Tolerance mm : +- 0.05
control lever position degree tolerance degree		FUEL DELIVERY CHARACTERISTICS
control lever position degree tolerance degree Testing:		Aneroid pressure  hPa : 2000  Rated speed rpm : 1400  Del. quantity  cm3/1000 strokes : 230.0
Rated speed rpm rack travel mm Tolerance mm	: 5.40	Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000S. : + 5.0 Spreed
Rated speed rpm CRT mm min.	: > 6.80	Tolerance : 10.0 check tolerance cm3/1000s: 14.0
Rated speed rpm	: 350	Aneroid pressure hPa : -
TORQUE CONTROL  Rated speed rpm rack travel mm		Rated speed rpm : 500  Del. quantity  cm3/1000 strokes : 84.0  Tolerance
Tolerance mm  Rated speed rpm rack travel mm Tolerance mm	: ← 0.05 : 1400 : 12.90	cm3/1000 strokes : → 1.0 Check tolerance cm3/1000S. : + 4.0
ANEROID/ALTITUDE COMPENSATOR TEST	. +- 0.10	BREAKAWAY  Rack travel in mm: 12.30
SETTING		+ Rated speed rpm : 1440 + Tolerance 1/min : + 5
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 2000 : 13.30 : + 0.05	
MEASUREMENT		+ LOW IDLE
Pressure hPa Rated speed rom rack travel mm Tolerance mm	: - : 500 : 8.20 : +- 0.10	Del. quantity cm3/1000 strokes : 23.0 Tolerance cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000s. : +- 5.0
Rated speed rpm	: 500	Spreed Tolerance
Pressure hPa rack travel mm Tolerance mm	: 1400 : 4.70 : + 0.20	+ cm3/1000 strokes : 5.0 + Check tolerance + cm3/1000s. : 8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 10.10.95 Edition Test oil : ISO 4113

Combination No. : 0 402 648 931B

Injection pump

Pump designation : PE8P12OA32OLS7847-3

EP type number : 0 412 628 886

Governor

Governer design. : RQ300/950PA1032-7 Governer no. : 0 421 801 715

Cust. part No. : 0230741302

Customer-spec. information Customer : MB-NFZ : 0M402 LA Motor Power KW : 280.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity

min. L/h : 110 Tolerance L/h : + 10.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 bar Tolerance bar : +- 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.55 Tolerance mm : + 0.05

test only :  $\leftarrow$  0.10

Rack travel in mm: 20.50 Toterance mm: +-0.50

Firing order : 8-7-2-6-3 :-5-4-1

Phasing : 0-45-90-135-180

Tolerance : +- 0.30

Check

tolerance  $^{\circ}NW$  :  $\leftarrow$  0.50

Start of delivery mark

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 550

: -225-270-315

Rack travel in mm: 14.80

Tolerance mm :  $\leftarrow$  0.05

Del. quantity

cm3/1000 strokes : 239.0

Talanana	1
Tolerance	Detail aread are
cm3/1000 strokes : +- 1.0	Rated speed rpm : 550
Charle to Language	guide steeve
Check tolerance : +- 4.0	travel mm : 6.00
cm3/1000s. : +- 4.0	Tolerance mm : + 0.10
Pro manufacture and a second an	Detail mand and 14/0
Spreed	Rated speed rpm : 1160
Tolerance	guide sleeve
cm3/1000 strokes : 6.0	+ travel mm : 11.50
Charle de Langue	+ Tolerance mm : +- 0.50
Check tolerance cm3/1000s. : 9.0	Dated aread area a 977
cm3/1000s. : 9.0	Rated speed rpm : 833
Rated speed rpm : 300	+ guide sleeve + travel mm : 6.38
Rated speed rpm : 300	
Dook topyed in my a 5 70	Tolerance mm : +- 0.10
Rack travel in mm: 5.70 Tolerance mm: + 0.30	Ť
	CHINE CLEENE DOCTETON
Del. quantity cm3/1000 strokes : 13.0	GUIDE SLEEVE POSITION
Tolerance	Rated speed rpm : 600
cm3/1000 strokes : +- 3.0	Rated speed rpm : 600
Check tolerance	Rack travel in mm: 20.00
cm3/1000s. : +- 6.0	Tolerance mm : + 0.80
Spreed	T roter drice min . == 0.00
Tolerance	
cm3/1000 strokes : 6.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance	T TOLE COAD DELIVERY AT TOLE COAD STOP
cm3/1000s. : 10.0	Rated speed rpm : 550
10.0	+ Aneroid pressure
	+ hPa : 1200
(B) SETTING OF INJECTION PUMP	Del. quantity
WITH GOVERNOR	- cm3/1000 strokes : 239.0
WITH GOVERNOR	+ Tolerance
	+ cm3/1000 strokes : + 1.0
GUIDE SLEEVE TRAVEL	+ Check tolerance
The Secretary of the Secretary Secre	- cm3/1000s. : +- 4.0
Rated speed rpm : 300	Spreed
guide sleeve	Tolerance
travel mm : 1.74	- cm3/1000 strokes : 6.0
Tolerance mm : + 0.10	Check tolerance
	cm3/1000s. : 9.0
Rated speed rpm : 1005	+
guide sleeve	
travel mm : 6.84	RATED SPEED
Tolerance mm : +- 0.10	1
•	+
Rated speed rpm : 950 -	+ control lever
guide sleeve	position degree : 97.0
travel mm : 6.50 -	tolerance degree : + 4.0
Tolerance mm : +- 0.10 -	+
•	rack travel mm : 13.15
Rated speed rom : 736	Rated speed rpm : 998
guide steeve	Tolerance 1/min : + 8
travel mm : 6.13 -	
	<del>†</del>
Tolerance mm : + 0.10	rack travel mm : 4.00
•	Rated speed rpm : 1085
Rated speed rpm : 415	
Rated speed rpm : 415 - guide sleeve -	Rated speed rpm : 1085 Tolerance 1/min : +- 15
Rated speed rpm : 415 - guide sleeve - travel mm : 3.82 -	Rated speed rpm : 1085 Tolerance 1/min : +- 15 rack travel mm : 0.75
Rated speed rpm : 415 - guide sleeve -	Rated speed rpm : 1085 Tolerance 1/min : +- 15

LOW IDLE Rated speed rpm : 400	
LOW TUCE	
t Pressure nPa : 500	
Pressure hPa : 300 rack travel mm : 11.90 control lever position degree : 73.0	
tolerance degree : +- 4.0 + Pressure hPa : 450	
Testing: + rack travel mm : 12.90 + Tolerance mm : ÷ 0.10	
Rated speed rpm : 300 +	
rack travel mm : 5.50 Tolerance mm : +- 0.10  FUEL DELIVERY CHARACTERISTICS	
rack travel mm : 2.00 + Aneroid pressure Rated speed rpm : 420 + hPa : 1200	
Tolerance 1/min : +- 20 + Rated speed rpm : 950	
Rated speed rpm : 200 + cm3/1000 strokes : 216.0	
CRT mm min. : > 7.50 + Tolerance + cm3/1000 strokes : +- 2.0	
+ Check tolerance + cm3/1000s. : + 5.0	
TORQUE CONTROL + Spreed + Tolerance	
Rated speed rpm : 550 + cm3/1000 strokes : 8.0	
rack travel mm : 14.80	
Rated speed rpm : 950 Aneroid pressure	
Rated speed rpm : 950 + Aneroid pressure rack travel mm : 14.15 + hPa : - Tolerance mm : + 0.10 + Rated speed rpm : 400	
Rated speed rpm : 860 + cm3/1000 strokes : 107.0	
rack travel mm : 14.35 + Tolerance	
Tolerance mm : + 0.10 + cm3/1000 strokes : + 1.0 + Check tolerance	
Rated speed rpm : 820 + cm3/1000s. : +- 4.0 rack travel mm : 14.65 + Spreed	
Tolerance mm : + 0.10 + Tolerance	
+ cm3/1000 strokes : 8.0 	
ANEROID/ALTITUDE + cm3/1000s. : 12.0 compensator test	
BREAKAWAY	
SETTING	
Rated speed rpm : 400 + Rack travel in mm : 13.15 Pressure hPa : 1200 + Rated speed rpm : 998	
rack travel mm : 14.80 + Tolerance 1/min : + 8	
Tolerance mm : +- 0.05	
MEASUREMENT + STARTING FUEL DELIVERY	
Pressure hPa : - +	
Rated speed rpm : 400 + Rated speed rpm : 100 rack travel mm : 10.60 + rack travel mm : 10.60	

H13

Tolerance mm : ÷- 0.50
Del. quantity
cm3/1000 strokes : 60.0
Tolerance
cm3/1000 strokes : +- 10.0
Check tolerance
cm3/1000s. : +- 14.0

### LOW IDLE

Rated speed rpm 300 5.70 rack travel mm Tolerance mm : **←** 0.30 Del. quantity cm3/1000 strokes : 13.0 Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s. 6.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. 10.0 :

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 10.10.95 Test oil : ISO 4113

Combination No. : 0 402 648 9310

Injection pump

Pump designation : PE8P120A320LS7847-2

EP type number : 0 412 628 885

Governor

Governer design. : RQ300/950PA1032-7 Governer no. : 0 421 801 715

Cust. part No. : 0230741302

Customer-spec. information Customer : MB-NFZ : 0M402 LA Motor

: 280.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 : +- 2.0 Tolerance °C

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity

min. L/h : 110 Tolerance l/h: +- 10.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 bar Tolerance bar : + 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.55 Tolerance mm : +- 0.05

test only :  $\leftarrow$  0.10

Rack travel in mm: 20.50 Tolerance mm : + 0.50

Firing order : 8-7-2-6-3

: - 5- 4- 1

: 0-45-90-135-180 Phasing

: -225-270-315

Tolerance : ← 0.30

Check

tolerance °NW : +- 0.50

Start of delivery mark

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm: 14.80 Tolerance mm : ← 0.05

Del. quantity

cm3/1000 strokes : 239.0

Talagana	t .
Tolerance cm3/1000 strokes : +- 1.0	Dotted aread man
CMS/ (UGU STrokes : +- 1.0	Rated speed rpm : 550
Charle de Langue	guide sleeve
Check tolerance	+ travel mm : 6.00
cm3/1000s. : +- 4.0	† Tolerance mm : + 0.10
Canad	Detail aread area
Spreed	Rated speed rpm : 1160
Tolerance	guide sleeve
cm3/1000 strokes : 6.0	travel mm : 11.50
Charles and a company	† Tolerance mm : + 0.50
Check tolerance	Patrod annual man
cm3/1000s. : 9.0	+ Rated speed rpm : 833
Control many a 700	+ guide steeve
Rated speed rpm : 300	+ travel mm : 6.38
Dool Americal designs 5-70	+ Tolerance mm : + 0.10
Rack travel in mm: 5.70	†
Tolerance mm : + 0.30	CUTSE OF EDUCATION
Del. quantity cm3/1000 strokes : 13.0	GUIDE SLEEVE POSITION
	Poted aread area a 400
Tolerance	Rated speed rpm : 600
cm3/1000 strokes : +- 3.0	Rack travel in mm: 20.00
Check tolerance cm3/1000s. : +- 6.0	
Spreed : +- 6.0	Tolerance mm : + 0.80
Spreed Tolerance	
cm3/1000 strokes : 6.0	+ FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance	T FOLL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000s. : 10.0	+ Rated speed rpm : 550
tiis/10003 10.0	Aneroid pressure
	+ hPa : 1200
(B) SETTING OF INJECTION PUMP	+ Del. quantity
WITH GOVERNOR	+ cm3/1000 strokes : 239.0
HIM GOSEIGION	+ Tolerance
	+ cm3/1000 strokes : +- 1.0
GUIDE SLEEVE TRAVEL	+ Check tolerance
3943F 20004F 1.1112FF	+ cm3/1000s. : + 4.0
Rated speed rpm : 300	Spreed
guide sleeve	+ Tolerance
travel mm : 1.74	+ cm3/1000 strokes : 6.0
Tolerance mm : + 0.10	+ Check tolerance
The second secon	+ cm3/1000s. : 9.0
Rated speed rpm : 1005	+
guide sleeve	+
travel mm : 6.84	+ RATED SPEED
Tolerance mm : + 0.10	+
	+
Rated speed rpm : 950	+ control lever
guide sleeve	+ position degree : 97.0
travel mm : 6.50	tolerance degree : + 4.0
Tolerance mm : + 0.10	+
	track travel mm : 13.15
Rated speed rum : 736	Rated speed rpm : 998
guide sleeve	Tolerance 1/min : + 8
travel mm : 6.13	† (2)
Tolerance mm : +- 0.10	rack travel mm : 4.00
Detect and the 145	Rated speed rpm : 1085
Rated speed rpm : 415	
	Tolerance 1/min : +- 15
guide sleeve	<del>}</del>
guide sleeve travel mm : 3.82	rack travel mm : 0.75
guide sleeve	<del>}</del>

, ,	: 1350	+ Tolerance mm : + 0.20
LOW IDLE		- Rated speed rpm : 400
control lever		Pressure hPa : 300 rack travel mm : 11.90 Tolerance mm : + 0.15
position degree tolerance degree	: 73.0 : + 4.0	Pressure hPa : 450 rack travel mm : 12.90
Testing:		Tolerance mm : +- 0.10
Rated speed rpm rack travel mm Tolerance mm	: 300 : 5.50 : + 0.10	FUEL DELIVERY CHARACTERISTICS
rack travel mm Rated speed rpm Tolerance 1/min	: 2.00 : 420	Aneroid pressure hPa : 1200 Rated speed rpm : 950
Rated speed rpm	: 200	+ Del. quantity - cm3/1000 strokes : 216.0 - Tolerance
CRT mm min.	: > 7.50	cm3/1000 strokes : + 2.0 Check tolerance
TORQUE CONTROL		- cm3/1000s. : + 5.0 Spreed Tolerance
Rated speed rpm rack travel mm	: 14.80	+ cm3/1000 strokes : 8.0 + Check tolerance
Tolerance mm	: ← 0.05	cm3/1000s. : 12.0
Rated speed rpm rack travel mm	: 950 : 14.15	Aneroid pressure
Tolerance mm	: + 0.10	Rated speed rpm : 400 Del. quantity
Rated speed rpm rack travel mm	: 14.35	+ cm3/1000 strokes : 107.0 + Tolerance
Tolerance mm	: + 0.10	+ cm3/1000 strokes : + 1.0 + Check tolerance
Rated speed rpm rack travel mm Tolerance mm	: 820 : 14.65 : + 0.10	+ cm3/1000s. : +- 4.0 + Spreed + Tolerance
		cm3/1000 strokes : 8.0 Check tolerance
ANEROID/ALTITUDE COMPENSATOR TEST		cm3/1000s. : 12.0
SETTING		BREAKAWAY
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 400 : 1200 : 14.80 : +- 0.05	Rack travel in mm: 13.15 Rated speed rpm: 998 Tolerance 1/min: + 8
MEASUREMENT		STARTING FUEL DELIVERY
Pressure hPa Rated speed rpm rack travel mm	: – : 400 : 10.60	Rated speed rpm : 100 rack travel mm : 10.60

Tolerance mm	: +-	0.50
Del. quantity cm3/1000 strokes	:	60.0
Tolerance cm3/1000 strokes	: +	10.0
Check tolerance cm3/1000s.	: +-	14.0

## LOW IDLE

Rated speed rpm rack travel mm Tolerance mm	: 300 : 5.70 : + 0.30	
Del. quantity		
cm3/1000 strokes	: 13.0	
Tolerance		
cm3/1000 strokes	: +- 3.0	
Check tolerance	: +- 6.0	
cm3/1000S. Spreed	: * 0.0	
Tolerance		
cm3/1000 strokes	: 6.0	
Check tolerance		
cm3/1000s.	: 10.0	

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 10.10.95 Test oil : ISO 4113

Combination No. : 0 402 648 933

Injection pump

Pump designation : PE8P12OA32OLS7847-3

EP type number : 0 412 628 886

Governor

Governer design. : RQ300/950PA1031-14

Governer no. : 0 421 801 720

Cust. part No. : 0230742702

Customer-spec. information
Customer : MB-NFZ
Motor : OM402 LA
Power KW : 280.0

#### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5 Tolerance bar : ← 0.1

Tolerance l/h: + 10.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.55
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50Tolerance mm :  $\leftarrow 0.50$ 

Firing order : 8-7-2-6-3

: - 5- 4- 1

Phasing : 0-45-90-135-180

: -225-270-315

Tolerance :  $\leftarrow$  0.30

Check

tolerance °NW : + 0.50

Start of delivery mark

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 14.80 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 239.0

Tolerance

cm3/1000 strokes : + 1.0

H19

Check tolerance cm3/1000s.	: +- 4.0	<pre>+ guide sleeve + travel mm : 6.00 + Tolerance mm : +- 0.10</pre>
Spreed Tolerance	4.0	+ Rated speed rpm : 1160
cm3/1000 strokes	: 6.0	guide sleeve travel mm : 11.50
Check tolerance cm3/1000S.	: 9.0	Tolerance mm : + 0.50
Rated speed rpm	: 300	Rated speed rpm : 835 guide sleeve travel mm : 6.38
Rack travel in mm Tolerance mm Del. quantity		Tolerance mm : + 0.10
cm3/1000 strokes Tolerance	: 13.0	GUIDE SLEEVE POSITION
cm3/1000 strokes Check tolerance	: +- 3.0	Rated speed rpm : 600
cm3/1000s. Spreed Tolerance	: +- 6.0	Rack travel in mm : 20.00 Tolerance mm : + 0.80
cm3/1000 strokes Check tolerance	: 6.0	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000s.	: 10.0	+ Rated speed rpm : 550
(B) SETTING OF IN WITH GOVERNOR	JECTION PUMP	Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 239.0 Tolerance
GUIDE SLEEVE TRAV	EL	cm3/1000 strokes : + 1.0 Check tolerance
Rated speed rpm guide sleeve	: 300	cm3/1000s. : +- 4.0 + Spreed
travel mm Tolerance mm	: 1.62 : + 0.10	Tolerance cm3/1000 strokes : 6.0
Rated speed rpm guide sleeve	: 1009	+ Check tolerance + cm3/1000s. : 9.0
travel mm Tolerance mm	: 6.84 : + 0.10	RATED SPEED
Rated speed rpm guide sleeve	: 950	t control lever
travel mm Tolerance mm	: 6.50 : +- 0.10	position degree : 97.0 tolerance degree : + 4.0
Rated speed rpm guide sleeve	: 739	rack travel mm : 13.15 Rated speed rpm : 998
travel mm Tolerance mm	: 6.13 : + 0.10	Tolerance 1/min : + 8
Rated speed rpm guide sleeve		rack travel mm : 4.00 Rated speed rpm : 1085 Tolerance 1/min : + 15
travel mm Tolerance mm	: 4.35 : +- 0.10	rack travel mm : 0.75
Rated speed rpm	: 550	Tolerance mm : +- 0.75 Rated speed rpm : 1350

	<del>†</del>
	Rated speed rpm : 400
LOW IDLE	†
•	Pressure hPa : 300 rack travel mm : 11.90
	rack travel mm : 11.90
control lever	Tolerance mm : +- 0.15
position degree : 70.0	
tolerance degree : + 4.0	Pressure hPa : 450
	rack travel mm : 12.90
Testing:	Tolerance mm : +- 0.10
	+
Rated speed rpm : 300 - rack travel mm : 3.50 - Tolerance mm : + 0.10 -	
rack travel mm : 3.50	START CUT-OUT
Tolerance mm : + 0.10	†
	Rated speed rpm : < 220
rack travel mm : 2.00	+ Check
Rated speed rpm : 350	speed 1/min : < 240
Tolerance 1/min : + 20	+
-	
Rated speed rpm : 200 -	FUEL DELIVERY CHARACTERISTICS
COT on min	Annual masses
CRT mm min. : > 5.50	Aneroid pressure
•	hPa : 1200
TOROUGANITON	Rated speed rpm : 950
TORQUE CONTROL -	Del. quantity
and the second	cm3/1000 strokes : 216.0
Rated speed rpm : 550	Tolerance
rack travel mm : 14.80	cm3/1000 strokes : +- 2.0
Tolerance mm : + 0.05	Check tolerance
	cm3/1000s. : +- 5.0
Rated speed rpm : 950	- Spreed
rack travel mm : 14.15	- Tolerance
Tolerance mm : +- 0.10	cm3/1000 strokes : 8.0
	Check tolerance
Rated speed rpm : 860	cm3/1000s. : 12.0
rack travel mm : 14.35	+
Tolerance mm : +- 0.10	Aneroid pressure
<del>,</del>	hPa : -
Rated speed rpm : 820 -	Rated speed rpm : 400
rack travel mm : 14.65	Del. quantity
Tolerance mm : + 0.10	cm3/1000 strokes : 107.0
+	Tolerance
	- cm3/1000 strokes : +- 1.0
ANEROID/ALTITUDE -	Check tolerance
COMPENSATOR TEST	cm3/1000s. : +- 4.0
	- Spreed
	Tolerance
SETTING	- cm3/1000 strokes : 8.0
+	Check tolerance
Rated speed rpm : 400	- cm3/1000s. : 12.0
Pressure hPa : 1200	-
rack travel mm : 14.80	
Tolerance mm : +- 0.05	BREAKAWAY
<del>-</del>	
MEASUREMENT	
<u>.</u>	Rack travel in mm: 13.15
Pressure hPa : -	Rated speed rpm : 998
Rated speed rpm : 400	Tolerance 1/min : +- 8
rack travel mm : 10.60	
Tolerance mm : $+$ 0.20	

# STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity

cm3/1000 strokes : 210.0

Tolerance

cm3/1000 strokes : + 15.0

Check tolerance

cm3/1000s. : +- 19.0

# LOW IDLE

Rated speed rpm : 300 rack travel mm : 5.70 Tolerance mm : +-0.30

Del. quantity

cm3/1000 strokes : 13.0

Tolerance

cm3/1000 strokes : + 3.0

Check tolerance

cm3/1000s. : +- 6.0

Spreed

Tolerance cm3/1000 strokes : 6.0

Check tolerance

cm3/1000s. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS Note remarks Refer to Service Info for test and adjustment instructions. See microcard(s) W400/... : 09.10.95 Edition Test oil : ISO 4113 Combination No. : 0 402 744 801 Injection pump Pump designation : PES4P120A320RS7380 EP type number : 0 412 724 802 Governor Governer design. : RQV275...1200PA1232K Governer no. : 8 421 815 469 Cust. part No. : CCEP 5149 66-237 Customer-spec. information Customer : RVI : MIDR 04-02-26 B4 Motor Power KW : 110.0 TEST BENCH REQUIREMENTS Inlet line : 3.2 Test oil inlet temp. °C 40 Tolerance °C : + 2.0 Overflow valve : 2 417 413 071 Inlet press. bar : 2.5 Overflow quantity min. L/h : 95 Tolerance L/h : + 10.0 Test nozzle holde : 1 688 901 105 assembly

: 208.5

Outside diameter : 8.0 x inside diameter : 3.0 x length min : 600 REMARKS (A) INJECTION PUMP SETTING VALUES Set equal delivery quant. per values \_\_\_\_\_ BEGINNING OF DELIVERY Test pressure bar : 26.0 Tolerance bar :  $\leftarrow$  1.0 Prestroke mm : 5.00 Tolerance mm : + 0.05 : +- 0.10 test only Rack travel in mm: 11.00 Tolerance mm : +- 0.50 Firing order : 1-3-4-2 : 0-90-180-270 : + 0.30 Phasing Tolerance Check tolerance "NW : +- 0.50 Start of delivery mark Barrel no. : 1 BASIC SETTING Rated speed rpm : 1200 Del. quantity cm3/1000 strokes : 236.0 Tolerance cm3/1000 strokes : +- 1.0Check tolerance : +- 4.0 cm3/1000s. Spreed

Test Lines : 1 680 750 089

bar

Opening pressure

Tolerance bar : + 1.5

Tolerance cm3/1000 strokes : 5.0	guide sleeve travel mm : 13.50 Tolerance mm : + 0.50
Check tolerance cm3/1000s. : 9.0	CUIDE CLEGUE DOCTITON
Rated speed rpm : 325	- GUIDE SLEEVE POSITION - Rated speed rpm : 1500
Rack travel in mm: -6.10 Tolerance mm: + 0.20 Del. quantity cm3/1000 strokes: 40.0 Tolerance	Rack travel in mm: 11.10 Tolerance mm: + 1.50
cm3/1000 strokes : + 2.0 - Check tolerance	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000s. :+- 6.0 Spreed Tolerance	Rated speed rpm : 1200 - Aneroid pressure - hPa : 1200
cm3/1000 strokes : 8.0 - Check tolerance -	Del. quantity cm3/1000 strokes : 236.0
cm3/1000s. : 12.0 -	Tolerance - cm3/1000 strokes : + 1.0 - Check tolerance
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	- cm3/1000s. : +- 4.0 - Spreed
GUIDE SLEEVE TRAVEL	- Tolerance - cm3/1000 strokes : 5.0 - Check tolerance
Rated speed rpm : 325	- cm3/1000s. : 9.0 -
guide sleeve	
travel mm : 1.57 Tolerance mm : + 0.25	- RATED SPEED
Rated speed rpm : 1381 guide sleeve travel mm : 10.37 Tolerance mm : + 0.25	control lever position degree : 302.0 tolerance degree : +- 4.0
Total disce half	- rack travel mm : -1.00
Rated speed rpm : 940 guide sleeve	- Rated speed rpm : 1270 - Tolerance 1/min : +- 5
travel mm : 6.87 Tolerance mm : + 0.25	
+	- rack travel mm : -8.20 - Rated speed rpm : 1465
Rated speed rpm : 390 guide sleeve	Tolerance 1/min : +- 15 - rack travel mm : -11.70
guide sleeve travel mm : 2.39 Tolerance mm : +- 0.25	Tolerance mm : +- 0.50 Rated speed rpm : 1550
Rated speed rpm : 440 guide sleeve travel mm : 2.90 Tolerance mm : + 0.25	
travel mm : 2.90	LOW IDLE
	, COM INCE
Tolerance mm : + 0.25	- FOM INCE
Rated speed rpm : 560	control lever position degree : 253.0
	- control lever

Rated speed rpm rack travel mm Tolerance mm	: 325 : -6.10 : + 0.10	Aneroid pressure hPa : 1200 Rated speed rpm : 700
Rated speed rpm	: 200	Del. quantity cm3/1000 strokes : 237.0 Tolerance
CRT mm min.	: < -4.60	cm3/1000 strokes : + 3.0 Check tolerance
Rated speed rpm	: 390	cm3/1000s. : +- 6.0
TORQUE CONTROL		+ Aneroid pressure + hPa : -
Rated speed rpm	: 1200	Rated speed rpm : 500  Del. quantity
Rated speed rpm	: 700	cm3/1000 strokes : 155.0 Tolerance
rack travel mm Tolerance mm	: −1.15 : ← 0.10	cm3/1000 strokes : +- 1.0 Check tolerance
Rated speed rpm	: 350	+ cm3/1000s. : +- 4.0
rack travel mm Tolerance mm	: −2.90 : ← 0.20	BREAKAWAY
ANEROID/ALTITUDE COMPENSATOR TEST		Rack travel in mm: -1.00 Rated speed rpm: 1270 Tolerance 1/min: +- 5
SETTING		<del>+</del>
Rated speed rpm Pressure hPa	: 1200 : 1200	STARTING FUEL DELIVERY
MEASUREMENT		Rated speed rpm : 100 Del. quantity
Pressure hPa	: -	cm3/1000 strokes : 100.0 Tolerance
Rated speed rpm rack travel mm		+ cm3/1000 strokes : + 15.0 + Check tolerance
Tolerance mm	: +- 0.20	cm3/1000s. : +- 19.0
Rated speed rpm	: 1200	<del>}</del>
Pressure hPa rack travel mm Tolerance mm	: 320 : -3.60 : ← 0.20	LOW IDLE
		Rated speed rpm : 325 rack travel mm : -6.10
Pressure hPa rack travel mm	: 520 : -2.50	Toterance man : + 0.20
Tolerance mm	: +- 0.05	Del. quantity cm3/1000 strokes : 40.0
START CUT-OUT		Tolerance cm3/1000 strokes : +- 2.0
Rated speed rpm	: < 275	Check tolerance cm3/1000s. : +- 6.0
Check speed 1/min	: < 285	Spreed Tolerance
		cm3/1000 strokes : 8.0 Check tolerance
	•	I OLLOW POTO BLIFE

## Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 05.10.95 Test oil : ISO 4113

Combination No. : 0 402 746 994

## Injection pump

Pump designation : PES6P120A320RS7344 EP type number : 0 412 726 914

# Governor

Governer design. : RQV275...1000PA1161 Governer no. : 0 421 814 100

Cust. part No. : CCEP 5143A 66-231

# Customer-spec. information

Customer : RVI

Motor : MIDR 062045 E/41

Power KW : 249.0

# TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp.  $^{\circ}$ C : 40 Tolerance  $^{\circ}$ C :  $\leftarrow$  2.0

Overflow valve : 2 417 413 071

Inlet press. bar : 2.5

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : +- 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values \_\_\_\_\_

# BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.50 Tolerance mm : + 0.05

test only :  $\leftarrow$  0.10

Rack travel in mm: 11.00 Tolerance mm: + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240 : -300

Tolerance : + 0.30

Check

tolerance \*NW : +- 0.50

Start of delivery mark

Barret no. : 1

## BASIC SETTING

Rated speed rpm : 600

Del. quantity cm3/1000 strokes : 282.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s. : +- 4.0

Spreed

Tolerance

cm3/1000 strokes : 5.0

	+	Tolerance mm : +- 0.50
Check tolerance	+	
cm3/1000S.	: 9.0	
	+	GUIDE SLEEVE POSITION
Rated speed rpm	: 300 +	
		Rated speed rpm : 1235
Rack travel in mo		- 4.70
Tolerance mm	: +- 0.20	Rack travel in mm: 11.70
Del. quantity	72.0	Tolerance mm : + 1.30
cm3/1000 strokes	: 32.0	
Tolerance	T	FULL LOAD DELTUEDY AT FULL LOAD CTOD
cm3/1000 strokes	: + 2.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance cm3/1000s.	: + 5.0	Rated speed rom : 600
Spreed	: - 5.0 I	Rated speed rpm : 600 Aneroid pressure
Tolerance	I	hPa : 1000
cm3/1000 strokes	: 8.0	Del. quantity
Check tolerance	· 3.5	cm3/1CJO strokes : 282.0
cm3/1000S.	: 12.0	Tolerance
C:::37 10000:		cm3/1000 strokes : + 1.0
	1	Check tolerance
(B) SETTING OF IN	MECTION PUMP	cm3/1000s. : + 4.0
WITH GOVERNOR		Spreed
	1	Tolerance
		cm3/1000 strokes : 5.0
GUIDE SLEEVE TRAV	EL +	Check tolerance
	+	cm3/1000s. : 9.0
Rated speed rpm	: 300 +	
guide sleeve	+	
travel mm	: 1.66	RATED SPEED
Tolerance mm	: + 0.25 +	
	+	
Rated speed rpm	: 1086	control lever
guide sleeve	<b>†</b>	position degree : 120.0
travel mm	: 8.09	tolerance degree : +- 4.0
Tolerance mm	: + 0.25	4.00
Section and the	707	rack travel mm : -1.00
Rated speed rpm	: 793	Rated speed rpm : 1080 Tolerance 1/min : + 5
guide sleeve	: 6.00	Tolerance 1/min : + 5
travel mm		rack travel mm : -8.60
Tolerance mm	: +- 0.25	Rated speed rpm : 1215
Rated speed rpm	: 343	Tolerance 1/min : + 15
guide sleeve	· 343	TOGGI GROUP THERE A 1 12
travel mm	: 2.33	rack travel mm : -12.10
Tolerance mm	: + 0.25	Tolerance mm : + 0.50
rocerarice man		Rated speed rpm : 1300
Rated speed rpm	: 393	14,304 0,504 1,511
guide sleeve		
travel mm	: 2.95	LOW IDLE
Tolerance mm	: + 0.25	
	<u> </u>	
Rated speed rpm	: 500	control lever
guide sleeve	į.	position degree : 65.0
travel mm	: 3.72	tolerance degree : + 4.0
Tolerance mm	: + 0.25	
	+	Testing:
Rated speed rpm	: 1410 +	
guide sleeve	+	Rated speed rpm : 200
travel mm	: 11.50 +	

		i Anancia macayan
CRT mm max.	: < -5.50	Aneroid pressure + hPa : -
		+ Rated speed rpm : 500
Rated speed rpm	: 400	Del. quantity
		+ cm3/1000 strokes : 122.0
TARALIE RANGRAL		Tolerance
TORQUE CONTROL		+ cm3/1000 strokes : + 1.0
Donal secol ses		+ Check tolerance + cm3/1000s. : + 4.0
Rated speed rpm	: 600	T (110) 10003. : 4.0
Rated speed rpm	: 1000	
Tolerance mm	: +- 0.10	BREAKAWAY
ANEROID/ALTITUDE		+ Rack travel in mm : -1.00
COMPENSATOR TEST		+ Rated speed rpm : 1080
		† Tolerance 1/min : + 5
COTTAIN		†
SETTING		
Rated speed rpm	: 500	STARTING FUEL DELIVERY
Pressure hPa		
		Rated speed rpm : 100
MEASUREMENT		rack travel mm : 20.25
		† Tolerance man : + 0.75
Pressure hPa	: -	+ Del. quantity
Rated speed rpm		+ cm3/1000 strokes : 150.0
rack travel mm	: -3.40	Tolerance
Tolerance mm	: <b>+-</b> 0.30	+ cm3/1000 strokes : + 15.0
	500	+ Check tolerance
Rated speed rpm	: 500	cm3/1000s. : +- 19.0
Pressure hPa	: 320	I
rack travel mm	: -2.65	$\mathbf{I}$
Tolerance mm	: +- 8.15	
rotor artos nan		+ LOW IDLE
Pressure hPa	: 640	
rack travel mm	: -0.70	+ Rated speed rpm : 300
Tolerance mm	: ← 0.05	+ rack travel mm : -7.50
		+ Tolerance mm : + 0.20
		Del. quantity
START CUT-OUT		+ cm3/1000 strokes : 32.0
Dottod spood pop	: < 225	<pre>† Tolerance + cm3/1000 strokes : ← 2.0</pre>
Rated speed rpm Check	: \ 223	+ Check tolerance
speed 1/min	: < 245	cm3/1000s. : + 5.0
Speca min		Spreed
FUEL DELIVERY CHA	RACTERISTICS	+ cm3/1000 strokes : 8.0
		+ Check tolerance
Aneroid pressure		+ cm3/1000s. : 12.0
hPa	: 1000	+
Rated speed rpm	: 1000	†
Del. quantity	207.0	†
cm3/1000 strokes	: 283.0	<u> </u>
Tolerance	7 A	
cm3/1000 strokes Check tolerance	: +- 3.0	+ End of test specification sheet
cm3/1000s.	: +- 6.0	The of test specification sheet
CHID / TUDUS .		ş

## Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 05.10.95 Test oil : ISO 4113

Combination No. : 0 402 946 018

Injection pump

Pump designation : PE6P120A720RS8041 EP type number : 0 412 926 027

Governor

Governer design. : RQV250...950PA1253

Governer no. : 0 421 814 166

Cust. part No. : 1383215

Customer-spec. information Customer : SCANIA Motor : DSC 11.75

## TEST BENCH REQUIREMENTS

Inlet line : EHAB

Test oil inlet

temp. °C 40 Tolerance °C

Overflow valve : 2 417 413 082

Inlet press. bar : 2.5 Tolerance bar  $: \leftarrow 0.1$ 

Test nozzle holde

: 1 688 901 104 assembly

Opening pressure

: 251.5 Tolerance bar

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x Length mm : 600

## REMARKS

Start-of-delivery setting with ROBO diaphragm.

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

# BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : + 1.0

Prestroke mm : Tolerance ma : +- 0.05

test only :  $\leftarrow$  0.10

Rack travel in mm: 20.50 Tolerance mm :  $\leftarrow$  0.50

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300

: +- 0.30 Tolerance

Check

tolerance \*NW : +- 0.50

Start of delivery blocking

Barrel no.

## BASIC SETTING

Rated speed rpm : 700

Rack travel in mm: 11.20 : +- 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 261.0

Tolerance

cm3/1000 strokes : +- 1.0

	+
Check tolerance cm3/1000s. : + 4.0	GUIDE SLEEVE POSITION
Spreed Tolerance	Rated speed rpm : 1235
cm3/1000 strokes : 8.0	Rack travel in mm: 10.20 Tolerance mm: +- 1.30
Check tolerance cm3/1000s. : 12.0	
Rated speed rpm : 250	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in mm : 5.60	Rated speed rpm : 700 Aneroid pressure
Tolerance mm : +- 0.30 Del. quantity	† hPa : 1500 † Del. quantity
cm3/1000 strokes : 16.0 Tolerance	+ cm3/1000 strokes : 261.0 + Tolerance
cm3/1000 strokes : +- 3.0 Check tolerance	cm3/1000 strokes : + 1.0 Check tolerance
cm3/1000s. : +- 6.0 Spreed	- cm3/1000s. : + 4.0 - Spreed
Tolerance cm3/1000 strokes : 4.0	Tolerance cm3/1000 strokes : 8.0
Check tolerance cm3/1000s. : 8.0	+ Check tolerance + cm3/1000s. : 12.0
(B) SETTING OF INJECTION PUMP	+ RATED SPEED
WITH GOVERNOR	T NATES OF EED
GUIDE SLEEVE TRAVEL	control lever position degree : 59.0
Rated speed rpm : 250	tolerance degree : +- 4.0
guide sleeve travel mm : 1.31	+ control lever + position degree : 112.0
Tolerance mm : + 0.20	tolerance degree : + 4.0
Rated speed rpm : 1006 guide sleeve	rack travel mm : 10.90 Rated speed rpm : 995
travel mm : 7.25 Tolerance mm : + 0.15	Tolerance 1/min : +- 5
Rated speed rpm : 673	+ rack travel mm : 4.00 + Rated speed rpm : 1130 + Tolerance 1/min : + 15
guide sleeve travel mm : 4.96 Tolerance mm : + 0.25	Tolerance 1/min : + 15  rack travel mm : 0.50
Rated speed rpm : 420	Tolerance mm : + 0.50 Rated speed rpm : 1200
guide sleeve travel mm : 3.37	T Naced Speed : pin . 1200
Tolerance mm : + 0.25	LOW IDLE
Rated speed rpm : 1390 guide sleeve	+ control lever
travel mm : 11.50 Tolerance mm : +- 0.50	<pre>position degree : 66.0 tolerance degree : + 4.0</pre>
	1

		+ Rated speed rpm : < 170
control lever position degree tolerance degree		Check speed 1/min : < 190
Testing:		FUEL DELIVERY CHARACTERISTICS
Rated speed rpm rack travel mm Tolerance mm	: 5.60	Aneroid pressure hPa : 1500 Rated speed rpm : 950 Del. quantity
Rated speed rpm	: 150	cm3/1000 strokes : 245.0
CRT mm min.	: > 6.15	cm3/1000 strokes : + 4.0
Rated speed rpm	: 300	cm3/1000s. : + 6.0
TORQUE CONTROL		Aneroid pressure hPa : - Rated speed rpm : 500
Rated speed rpm	: 700	+ Del. quantity
rack travel mm Tolerance mm		cm3/1000 strokes : 153.0 Tolerance
Rated speed rpm	: 950	cm3/1000 strokes : + 1.0 Check tolerance
rack travel mm Tolerance mm	: 11.20 : + 0.05	+ cm3/1000s. : + 4.0
ANDROTA (AL TITUDE		BREAKAWAY
ANEROID/ALTITUDE COMPENSATOR TEST		7
SETTING		+ Rack travel in mm: 10.90 + Rated speed rpm: 995 + Tolerance 1/min: + 5
Rated speed rpm	: 500	1
Pressure hPa rack travel mm Tolerance mm		STARTING FUEL DELIVERY
MEASUREMENT		Rated speed rpm : 100 rack travel mm : 20.50
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 500 : 8.20 : - 0.20	Tolerance mm : + 0.50
Rated speed rpm	: 500	LOW IDLE
Pressure hPa	: 290	Rated speed rpm : 250 rack travel mm : 5.60
rack travel mm	: 9.00	+ Tolerance mm : + 0.30
Tolerance mm	: ← 0.15	t Del. quantity cm3/1000 strokes : 16.0
Pressure hPa rack travel mm	: 540 : 10.40	Tolerance + cm3/1000 strokes : + 3.0
Tolerance mm	: + 0.05	Check tolerance cm3/1000s. : +- 6.0
START CUT-OUT		Spreed Tolerance
		+ cm3/1000 strokes : 4.0

cm3/1000s.	:	8.0	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 05.10.95 Test oil : 180 4113

Combination No. : 0 402 946 019

Injection pump

Pump designation : PE6P12OA72ORS8O41 EP type number : 0 412 926 027

Governor

Governer design. : RQV250...950PA1253

: -1

Governer no. : 0 421 814 167

Cust. part No. : 1383216

Customer—spec. information Customer : SCANIA Motor : DSC 11.74

TEST BENCH REQUIREMENTS

Inlet line : EHAB

Test oil inlet

temp.  $^{\circ}$ C :

Overflow valve : 2 417 413 082

Inlet press. bar : 2.5 Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 104

Opening pressure

bar : 251.5 Tolerance bar : +- 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

Start-of-delivery setting with ROBO diaphragm.

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.40
Tolerance mm : + 0.05

test only :  $\leftarrow$  0.10

Rack travel in mm : 20.50 Tolerance mm : + 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance :  $\leftarrow$  0.30

Check

tolerance °NW : +- 0.50

Start of delivery blocking

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 10.35
Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 227.0

Tolerance

cm3/1000 strokes : +- 1.0

Charle de Lanna	,
Check tolerance cm3/1000S. : + 4.0	GUIDE SLEEVE POSITION
Spreed Tolerance	Rated speed rpm : 1250
cm3/1000 strokes : 8.0	Rack travel in mm: 9.35 Tolerance mm: + 1.30
Check tolerance cm3/1000s. : 12.0	
Rated speed rpm : 250	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in mm: 5.60	Rated speed rpm : 700 Aneroid pressure
Tolerance mm : + 0.30 Del. quantity	hPa : 1500 Del. quantity
cm3/1000 strokes : 16.0	cm3/1000 strokes : 227.0 Tolerance
cm3/1000 strokes : + 3.0	cm3/1000 strokes : +- 1.0
Check tolerance cm3/1000s. : + 6.0	Check tolerance cm3/1000S. : +- 4.0
Spreed + Tolerance +	Spreed Tolerance
cm3/1000 strokes : 4.0	cm3/1000 strokes : 8.0
Check tolerance	Check tolerance
cm3/1000s. : 8.0	cm3/1000s. : 12.0
+	
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	RATED SPEED
	control lever
GUIDE SLEEVE TRAVEL	position degree : 58.0
Rated speed rpm : 250	tolerance degree : +- 4.0
Rated speed rpm : 250 + guide sleeve +	control lever
travel mm : 1.31	position degree : 111.0
Tolerance mm : $\leftarrow$ 0.20	tolerance degree : +- 4.0
Rated speed rpm : 1005	rack travel mm : 10.90
guide sleeve	Rated speed rpm : 995
travel mm : 7.25 Tolerance mm : + 0.15	Tolerance 1/min : + 5
	rack travel mm : 4.00
Rated speed rpm : 673	Rated speed rpm : 1190 Tolerance 1/min : + 15
guide sleeve + 4.96 +	Toterance Triming ()
Tolerance mm : + 0.25	rack travel mm : 0.50
<del>†</del>	Tolerance mm : + 0.50
Rated speed rpm : 420 + guide sleeve	Rated speed rpm : 1200
travel mm : 3.37	
Tolerance mm : + 0.25	LOW IDLE
Rated speed rpm : 1390 guide sleeve	control lever
travel mm : 11.50	position degree : 66.0
Tolerance mm : + 0.50	tolerance degree : +- 4.0
†	
+	

		+ Rated speed rpm : < 170
control lever position degree tolerance degree	: 12.0 : + 4.0	t Check speed 1/min : < 190
Testing:		FUEL DELIVERY CHARACTERISTICS
Rated speed rpm rack travel mm Tolerance mm	: 5.60	Aneroid pressure hPa : 1500 Rated speed rpm : 950 Del. quantity
Rated speed rpm	: 150	cm3/1000 strokes : 216.0 Tolerance
CRT mm min.	: > 6.15	cm3/1000 strokes : + 4.0 Check tolerance
Rated speed rpm	: 300	cm3/1000s. : + 6.0
TORQUE CONTROL	y de net an amerika a performación a créd til same er mesar skildennen inskrive en en er en en en en en en en	Aneroid pressure hPa : - Rated speed rpm : 500
Rated speed rpm rack travel mm		Del. quantity cm3/1000 strokes : 153.0
Tolerance mm	: +- 0.05	Tolerance + cm3/1000 strokes : + 1.0
Rated speed rom rack travel mm Tolerance mm		Check tolerance cm3/1000s. : + 4.0
ANEROID/ALTITUDE		BREAKAWAY
COMPENSATOR TEST		Rack travel in mm: 10.90 Rated speed rpm: 995 Tolerance 1/min: +- 5
Rated speed rpm Pressure hPa rack travel mm Tolerance mm		STARTING FUEL DELIVERY Rated speed rpm : 100
MEASUREMENT		+ rack travel mm : 20.50 + Tolerance mm : + 0.50
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 500 : 8.20 : + 0.20	
Rated speed rpm	: 500	LOW IDLE
Pressure hPa rack travel mm Tolerance mm	: 260 : 8.80	Rated speed rpm : 250 rack travel mm : 5.60 Tolerance mm : + 0.30 Del. quantity
	: ← 0.15	
Pressure hPa	: 430	+ cm3/1000 strokes : 16.0 + Tolerance
Pressure hPa rack travel mm Tolerance mm		+ cm3/1000 strokes : 16.0

cm3/1000s.	:	8.0	

### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 29.09.95 Edition : ISO 4113 Test oil

Combination No. : 0 403 476 048

Injection pump

Pump designation : FES6MW100/320RS1135 EP type number : 0 413 406 127

Governor

Governer design. : RSV325...1250MW2A308

: -3

: 0 420 085 057 Governer no.

Cust. part No. :

Customer-spec. information

Customer : VOLVO-PENTA : TD 61 AW Motor

Power KW : 125.0

# TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance \*C : +- 2.0

Overflow valve : 1 417 413 000

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

: 173.5 bar : + 1.5 Tolerance bar

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

# BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : + 1.0

2.95 Prestroke mm Tolerance mm : +- 0.05

: ← 0.10 test only

Rack travel in mm : 10.50 Tolerance mm :  $\leftarrow$  1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : **←** 0.50

Check

tolerance "NW : + - 0.75

Start of delivery mark

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 800

Rack travel in mm: 11.05 : +- 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 86.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s.

: + 3.0

Spreed Tolerance cm3/1000 strokes : 3.5	rack travel mm : 1.00 Tolerance mm : +- 0.70 Rated speed rpm : 1450
Check tolerance cm3/1000s. : 6.0	LOW IDLE
Rated speed rpm : 325	Testing:
Rack travel in mm: 8.75 Tolerance mm: :+- 0.20 Del. quantity cm3/1000 strokes: 19.0 Tolerance	Rated speed rpm : 325 rack travel mm : 8.75 Tolerance mm : + 0.05
cm3/1000 strokes : +- 2.0 Check tolerance	TORQUE CONTROL
cm3/1000S. : +- 4.5 Spreed Tolerance	Rated speed rpm : 800 rack travel mm : 11.05 Tolerance mm : +- 0.05
cm3/1000 strokes : 3.5 Check tolerance cm3/1000S. : 5.5	Rated speed rpm : 1000 rack travel mm : 11.05 Tolerance mm : +- 0.10
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	† 
	+ FUEL DELIVERY CHARACTERISTICS
GUIDE SLEEVE POSITION	+ Aneroid pressure + hPa : -
governor spring pre-tension	+ Rated speed rpm : 1000 + Del. quantity
click setting x : 4.00	+ cm3/1000 strokes : 89.5 + Tolerance
FULL LOAD DELIVERY AT FULL LOAD STOP	+ cm3/1000 strokes : +- 2.0 + Check tolerance + cm3/1000s. : +- 4.0
Rated speed rpm : 800 Aneroid pressure	+ Spreed + Tolerance
hPa : ~ Del. quantity	- cm3/1000 strokes : 5.0 - Check tolerance
cm3/1000 strokes : 86.0 Tolerance	+ cm3/1000s. : 7.0
cm3/1000 strokes : + 1.0 Check tolerance cm3/1000S. : + 3.0	BREAKAWAY
Spreed Tolerance cm3/1000 strokes : 3.5	Rack travel in mm: 10.00 Rated speed rpm: 1295
Check tolerance cm3/1000s. : 6.0	Tolerance 1/min : + 5
RATED SPEED	STARTING FUEL DELIVERY
rack travel mm : 10.00 Rated speed rpm : 1295 Tolerance 1/min : +- 5	Rated speed rpm : 100 rack travel mm : 20.60 Tolerance mm : +- 1.00
Tolerance 1/min : + 5	T roterance and re- 1.00

Del. quantity			
cm3/1000 strokes	:		100.0
Tolerance			
cm3/1000 strokes	:	+	5.0
Check tolerance			
cm3/1000s.	:	+	8.0

# LOW IDLE

Rated speed rpm rack travel mm	: :	325 8.75	
Tolerance mm	: +-	0.20	
Del. quantity		10.0	
cm3/1000 strokes	:	19.0	
Tolerance cm3/1000 strokes	•	2.0	
Check tolerance	,	2.0	
cm3/1000s.	: +-	4.5	
Spreed			
Tolerance			
cm3/1000 strokes	:	<b>3.</b> 5	
Check tolerance cm3/1000s.	•	5.5	
CHU/ 10003.	•	J.J	

BOSCH INJ. PUMP TEST SPECIFICATIONS x length mm : 600 Note remarks Refer to Service Info for test and REMARKS adjustment instructions. See microcard(s) W400/... Edition : 19.07.95 (A) INJECTION PUMP SETTING VALUES : 19.07.93 : ISO 4113 Test oil Set equal delivery quant. per values \_\_\_\_ Combination No. : 0 401 408 050 Injection pump BEGINNING OF DELIVERY Pump designation : PE8R120/500/6RS1509 26.0 EP type number : 0 401 408 050 Test pressure bar : Tolerance bar : + 1.0 Governor Governer design. : Governer no. Prestroke mm : 4.95 Tolerance mm : +- 0.05 Cust. part No. : 1 227 6686 test only : +- 0.10 Rack travel in mm : 21.00 Customer-spec. information Tolerance mm :  $\leftarrow$  0.50 : MWM Customer : TBD 616-V16 Firing order : 1-2-5-6-3-4 Motor : - 7- 8 TEST BENCH REQUIREMENTS Phasing : 0-30-45-75-270-300 : -315-345 Inlet line : 3.1 Tolerance : +- 0.30 Check Test oil inlet tolerance \*NW : **←** 0.50 temp. °C 40 Tolerance \*C Start of delivery mark Barrel no. : 1 Overflow valve : 2 417 413 082 BASIC SETTING 3.0 Inlet press. bar : Tolerance bar : + 0.1 Rated speed rpm : 1150 Rack travel in mm: 14.40 Test nozzle holde : 1 688 901 105 Tolerance mm:  $\leftarrow 0.05$ assembly Del. quantity Opening pressure 208.5 cm3/1000 strokes : 387.0 bar Tolerance bar : **←** 1.5 Tolerance cm3/1000 strokes : + 1.0Test Lines : 1 680 750 089 Check tolerance : +-cm3/1000s. Outside diameter : 8.0 4.0

Spreed

x inside diameter: 3.0

Tolerance cm3/1000 strokes	:		8.0	
Check tolerance cm3/1000s.	:		12.0	
Rated speed rpm	:		300	
Rack travel in mm Tolerance mm Del. quantity	:	+-	5.00 0.20	
cm3/1000 strokes Tolerance	:		30.0	
cm3/1000 strokes	:	+	3.0	
Check tolerance cm3/1000s. Spreed	:	+	6.0	
Tolerance cm3/1000 strokes Check tolerance	:		10.0	
cm3/1000s.	:		14.0	

FULL LOAD DELIVERY AT FULL LOAD STOP

(B) SETTING OF INJECTION PUMP

WITH GOVERNOR

Rated speed rpm	: 1150
Aneroid pressure hPa	: -
Del. quantity cm3/1000 strokes	: 387.0
Tolerance cm3/1000 strokes	: + 1.0
Check tolerance cm3/1000s.	: +- 4.0
Spreed Tolerance	
cm3/1000 strokes	: 8.0
Check tolerance cm3/1000s.	: 12.0

# TORQUE CONTROL

Rated speed rpm	:	1150
rack travel mm	:	14.40
Tolerance mm	:	<b>→</b> 0.05

LOW IDLE	
Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes	: 300 : 5.00 : +- 0.20 : 30.0
Tolerance cm3/1000 strokes Check tolerance	: + 3.0
cm3/1000s. Spreed Tolerance	: +- 6.0
cm3/1000 strokes Check tolerance	: 10.0
cm3/1000s.	: 14.0

## Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 06.04.95 : ISO 4113 Test oil

Combination No. : 0 402 670 810

Injection pump

Pump designation : PE12P120A520/5RS7375

EP type number : 0 412 620 844

Governor

Governer design. : RSUV300...900P0A361

Governer no. : 0 421 829 110

Cust. part No. : 1 2277 426

Customer-spec. information

Customer : MWM

: TBD 616-V12 Motor

Power KW : 648.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C Tolerance °C

Overflow valve : 1 417 413 025

1.5 Inlet press. bar : Tolerance bar : +-0.1

Test nozzle holde

: 1 688 901 019 assembly

Opening pressure

: 208.5 bar Tolerance bar : + 1.5

Test Lines : 1 680 750 075

8.0 Outside diameter :

x inside diameter: 3.0 x Length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm 4.60 : ÷ 0.05 Tolerance mm

: + 0.10 test only

Rack travel in mm: 13.00 Tolerance mm : + 0.50

Firing order : 1-2-9-10-5-6

: - 11- 12- 3- 4

: - 7- 8

Phasing : 0-30-60-90-120-150

: -180-210-240-270

: -300-330

: +- 0.30 Tolerance

Check

tolerance °NW : + 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rom : 700

Rack travel in mm : 13.30 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 325.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s.	: +- 4.0	t control lever position degree	· 109 0
Spreed Tolerance		tolerance degree	
cm3/1000 strokes	: 6.0	RATED SPEED	
Check tolerance cm3/1000s.	: 9.0	rack travel mm Tolerance mm Rated speed rpm	: 1.00 : + 0.70 : 950
Rated speed rpm	: 325		
Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000S. Spreed	: +- 0.30 : 30.0	Rated speed rpm rack travel mm  Rated speed rpm Tolerance 1/min rack travel mm  rack travel mm	: 784 : +- 4 : 4.00 : 1.00
Tolerance cm3/1000 strokes	: 8.0	+ Tolerance mm	: + 0.70
Check tolerance cm3/1000s.	: 12.0	Rated speed rpm rack travel mm	
(B) SETTING OF IN. WITH GOVERNOR	JECTION PUMP	Rated speed rpm Tolerance 1/min rack travel mm	: 785 : + 4 : 4.00
GUIDE SLEEVE POSIT	FTON	rack travel mm Tolerance mm	: 1.00 : +- 0.70
governor spring pre-tension		Rated speed rpm rack travel mm	: 752 : 12.30
click setting x	: 3.25	Rated speed rpm Tolerance 1/min rack travel mm	: 786 : +- 4 : 4.00
FULL LOAD DELIVERY	AT FULL LOAD STOP	† rack travel mm	: 1.00
Rated speed rpm Aneroid pressure	: 700	Tolerance mm	: + 0.70
hPa Del. quantity	: -	Rated speed rpm rack travel mm	: 753 : 12.30
cm3/1000 strokes Tolerance	: 325.0	+ Rated speed rpm	: 787
cm3/1000 strokes Check tolerance	: + 1.0	Tolerance 1/min rack travel mm	: +- 4 : 4.00
cm3/1000s.	: +- 4.0	+	
Spreed Tolerance cm3/1000 strokes	. 60	rack travel mm Tolerance mm	: ← 1.00 : ← 0.70
Check tolerance		Rated speed rpm	: 754
cm3/1000s.	: 9.0	rack travel mm	: 12.30
CONTROL LEVER		Rated speed rpm Tolerance 1/min rack travel mm	: 788 : + 4 : 4.00
		+	

rack travel mm	: 1.00
Tolerance mm	: +- 0.70
Rated speed rpm	: 755
rack travel mm	: 12.30
Rated speed rpm	: 789
Tolerance 1/min	: +- 4
rack travel mm	: 4.00
rack travel mm	: 1.00
Tolerance mm	: ← 0.70
LOW TOLE	

control lever

position degree 81.0 tolerance degree : +-4.0

Setting point w/out bumper spring

Rated speed rpm 325 rack travel mm 3.80

# Testing:

Rated speed rpm 325 4.30 rack travel mm Tolerance mm : + 0.10

2.00 rack travel mm Rated speed rpm 360 Tolerance 1/min 30

# TORQUE CONTROL

700 Rated speed rpm rack travel mm 13.30 : +- 0.05 Tolerance mm

## STARTING FUEL DELIVERY

100 Rated speed rom Del. quantity cm3/1000 strokes : 350.0 Tolerance cm3/1000 strokes : +-20.0 Check tolerance cm3/1000S. : +- 24.0

## LOW IDLE

Rated speed rpm	:	325	
rack travel mm	:	4.30	
Tolerance mm	: +	0.30	
Del. quantity			
cm3/1000 strokes	:	30.0	
Tolerance			
cm3/1000 strokes	: +	3.0	
Check tolerance			
cm3/1000s.	: +	6.0	
Spreed			
Tolerance			
cm3/1000 strokes	:	8.0	
Check tolerance			
cm3/1000s.	:	12.0	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 27.06.95 : ISO 4113 Test oil

Combination No. : 0 402 678 828

Injection pump

Pump designation : PE8P120A520/5RS7381

EP type number : 0 412 628 907

Governor

Governer design. : RSUV300...900P0A363

Governer no. : 0 421 829 111

Cust. part No. : 1 2277 434

Customer-spec, information : MWM Customer : TBD 616 Motor

Power KW : 432.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 Tolerance °C : **←** 2.0

: 1 417 413 025 Overflow valve

Inlet press. bar : : +- 0.1 Tolerance bar

Test nozzle holde

: 1 688 901 019 assembly

Opening pressure

208.5 bar : +- 1.5 Tolerance bar

: 1 680 750 075 Test lines

Outside diameter : 8.0

x inside diameter: 3.0 x Length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.60 Tolerance mm : +- 0.05

test only : + 0.10

Rack travel in mm: 13.00 Tolerance mm : +- 0.50

Firing order : 1-8-5-4-7

: - 2- 3- 6

: 0-30-90-120-180 Phasing

: -210-270-300 Tolerance : +- 0.30

Check

tolerance \*NW : +- 0.50

Start of delivery mark

Barrel no.

BASIC SETTING

Rated speed rpm : 700

13.30 Rack travel in mm:

Tolerance mm:  $\leftarrow 0.05$ 

Del. quantity

cm3/1000 strokes : 325.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

: +- 4.0 cm3/1000s.

	+ tolerance degree	: +- 4.0
Spreed Tolerance	+ RATED SPEED	
cm3/1000 strokes : 6.0	rack travel mm	: 1.00
Check tolerance cm3/1000s. : 9.0	Tolerance mm Rated speed rpm	: +- 0.70
Rated speed rpm : 325	<u>†</u>	
Rack travel in mm: 4.30 Tolerance mm: + 0.30 Del. quantity	Rated speed rpm rack travel mm	: 750 : 12.30
cm3/1000 strokes : 30.0 Tolerance	Rated speed rpm Tolerance 1/min	: 784 : + 4
cm3/1000 strokes : + 3.0 Check tolerance	rack travel mm	: 4.00
cm3/1000s. : +- 6.0 Spreed Tolerance	rack travel mm Tolerance mm	: + 1.00 : + 0.70
cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0	Rated speed rpm rack travel mm	: 751 : 12.30
(B) SETTING OF INJECTION PUMP	Rated speed rpm Tolerance 1/min rack travel mm	: 785 : + 4 : 4.00
WITH GOVERNOR	rack travel mm	: 1.00 : +- 0.70
GUIDE SLEEVE POSITION	Rated speed rpm rack travel mm	: 752 : 12.30
governor spring pre-tension click setting x : 3.25	Rated speed rpm Tolerance 1/min rack travel mm	: 786 : +- 4 : 4.00
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm Tolerance mm	: 1.00 : + 0.70
Rated speed rpm : 700 Aneroid pressure hPa : -	Rated speed rpm rack travel mm	: 753 : 12.30
Del. quantity cm3/1000 strokes : 325.0 Tolerance cm3/1000 strokes : + 1.0	Rated speed rpm Tolerance 1/min rack travel mm	: 787 : 4 : 4.00
Check tolerance cm3/1000s. : + 4.0 Spreed	rack travel mm Tolerance mm	: 1.00 : + 0.70
Tolerance cm3/1000 strokes : 6.0 Check tolerance	Rated speed rpm rack travel mm	: 754 : 12.30
cm3/1000s. : 9.0	Rated speed rpm Tolerance 1/min rack travel mm	: 788 : + 4 : 4.00
CONTROL LEVER	rack travel mm	: 1.00
control lever position degree : 109.0	Tolerance mm	: +- 0.70

Rated speed rpm rack travel mm	: 755 : 12.30
Rated speed rpm Tolerance 1/min rack travel mm	: 789 : +- 4 : 4.00
rack travel mm Tolerance mm	: 1.00 : +- 0.70
LOW IDLE	erter des sette dels des lagrations de la communication de la communication de la communication de la communic
control lever position degree tolerance degree	: 81.0 : +- 4.0
Setting point w/o	ut bumper spring
Rated speed rpm rack travel mm	: 325 : 3.80
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 325 : 4.30 : +- 0.10
rack travel mm Rated speed rpm Tolerance 1/min	: 2.00 : 360 : + 30
TORQUE CONTROL	
Rated speed rpm rack travel mm Tolerance mm	: 700 : 13.30 : + 0.05
STARTING FUEL DEL	IVERY
	4

Outside second second		705
Rated speed rpm	:	325
rack travel mm	:	4.30
Tolerance mm	: +	-0.30
Del. quantity		
cm3/1000 strokes	:	30.0
Tolerance		
cm3/1000 strokes	: +	- 3.0
Check tolerance		
cm3/1000s.	: +	- 6.0
Spreed		
Tolerance		
cm3/1000 strokes	:	8.0
Check tolerance		
cm3/1000s.	:	12.0
	-	

Rated speed rpm : 100
Del. quantity
cm3/1000 strokes : 350.0
Tolerance
cm3/1000 strokes : +- 20.0
Check tolerance
cm3/1000s. : +- 24.0

LOW IDLE

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 30.08.95 : ISO 4113

Combination No. : 0 402 678 830

Injection pump

Pump designation : PE8P12OA52O/5RS7386

EP type number : 0 412 628 910

Governor

Governer design. : RSUV325...1150P0A358

: -1

Governer no. : 0 421 829 106

Cust. part No. : 12277649KY0120-17

Customer-spec. information

Customer : MWM

: TBD 616 V16 Motor

Power KW : 864.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

40 temp. °C Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 019 assembly

Opening pressure

208.5 bar Tolerance bar : +- 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0

x Length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.65
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm: 13.00 Tolerance mm : + 0.10

Firing order : 1-2-7-8-3-4-: 5-6

Phasing : 0-30-45-75-90-120

: -315-345

Tolerance : ÷- 0.30

Check

tolerance \*NW : +- 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm: 12.60 Toterance mm : +- 0.05

Del. quantity cm3/1000 strokes : 262.0

Tolerance

cm3/1000 strokes :  $\leftarrow$  1.0

Check tolerance + 4.0 +	Rated speed rpm : 1193 Tolerance 1/min : +- 5
Spreed Tolerance cm3/1000 strokes : 6.0	rack travel mm : 4.00 Rated speed rpm : 1270 Tolerance 1/min : +- 15
Check tolerance cm3/1000s. : 9.0	rack travel mm : 0.85 Tolerance mm : +- 0.55 Rated speed rpm : 1380
Rated speed rpm : 300	rack travel mm : 4.00
Rack travel in mm: 6.40 Tolerance mm: : + 0.20 Del. quantity	Rated speed rpm : 1285
<pre>cm3/1000 strokes : 38.0 Tolerance cm3/1000 strokes : +- 3.0</pre>	LOW IDLE
Check tolerance cm3/1000s. : + 6.0 Spreed Tolerance	control lever  position degree : 84.0  tolerance degree : +- 4.0
cm3/1000 strokes : 8.0 + Check tolerance cm3/1000s. : 12.0 + Check tolerance cm3/1000s.	Setting point w/out bumper spring
(B) SETTING OF INJECTION PUMP	Rated speed rpm : 300 rack travel mm : 5.90
WITH GOVERNOR +	Testing:
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 300 rack travel mm : 6.40 Tolerance mm :+- 0.10
Rated speed rpm : 1150 +	rack travel mm : 6.40 Tolerance mm : + 0.10  rack travel mm : 2.00
Rated speed rpm : 1150 + Ameroid pressure + hPa : - +	rack travel mm : 6.40 Tolerance mm : +- 0.10
Rated speed rpm : 1150 Aneroid pressure hPa : - + DeL. quantity cm3/1000 strokes : 262.0 Tolerance	rack travel mm : 6.40 Tolerance mm : +- 0.10  rack travel mm : 2.00 Rated speed rpm : 460
Rated speed rpm : 1150 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 262.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed	rack travel mm : 6.40 Tolerance mm : +- 0.10  rack travel mm : 2.00 Rated speed rpm : 460 Tolerance 1/min : +- 30
Rated speed rpm : 1150 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 262.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000S. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0	rack travel mm : 6.40 Tolerance mm : +- 0.10  rack travel mm : 2.00 Rated speed rpm : 460 Tolerance 1/min : +- 30  TORQUE CONTROL  Rated speed rpm : 1150 rack travel mm : 12.60 Tolerance mm : +- 0.05  Rated speed rpm : 800
Rated speed rpm : 1150 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 262.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance	rack travel mm : 6.40 Tolerance mm : +- 0.10  rack travel mm : 2.00 Rated speed rpm : 460 Tolerance 1/min : +- 30  TORQUE CONTROL  Rated speed rpm : 1150 rack travel mm : 12.60 Tolerance mm : +- 0.05
Rated speed rpm : 1150 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 262.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance	rack travel mm : 6.40 Tolerance mm : + 0.10  rack travel mm : 2.00 Rated speed rpm : 460 Tolerance 1/min : + 30  TORQUE CONTROL  Rated speed rpm : 1150 rack travel mm : 12.60 Tolerance mm : + 0.05  Rated speed rpm : 800 rack travel mm : 12.60 Tolerance mm : + 0.10
Rated speed rpm : 1150 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 262.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance	rack travel mm : 6.40 Tolerance mm : +- 0.10  rack travel mm : 2.00 Rated speed rpm : 460 Tolerance 1/min : +- 30  TORQUE CONTROL  Rated speed rpm : 1150 rack travel mm : 12.60 Tolerance mm : +- 0.05  Rated speed rpm : 800 rack travel mm : 12.60
Rated speed rpm : 1150 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 262.0 Tolerance cm3/1000s strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000 strokes : 9.0	rack travel mm : 6.40 Tolerance mm : + 0.10  rack travel mm : 2.00 Rated speed rpm : 460 Tolerance 1/min : + 30  TORQUE CONTROL  Rated speed rpm : 1150 rack travel mm : 12.60 Tolerance mm : + 0.05  Rated speed rpm : 800 rack travel mm : 12.60 Tolerance mm : + 0.10  ANEROID/ALTITUDE COMPENSATOR TEST
Rated speed rpm : 1150 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 262.0 Tolerance cm3/1000s. : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  CONTROL LEVER  control lever position degree : 123.0	rack travel mm : 6.40 Tolerance mm : + 0.10  rack travel mm : 2.00 Rated speed rpm : 460 Tolerance 1/min : + 30  TORQUE CONTROL  Rated speed rpm : 1150 rack travel mm : 12.60 Tolerance mm : + 0.05  Rated speed rpm : 800 rack travel mm : 12.60 Tolerance mm : + 0.10  ANEROID/ALTITUDE COMPENSATOR TEST

## MEASUREMENT

Pressure hPa Rated speed rpm 600 8.50 rack travel mm 0.20 Tolerance mm

600 Rated speed rom

670 Pressure hPa rack travel mon 11.40 Tolerance mm : + - 0.20

450 Pressure hPa rack travel mm 9.60 : + 0.05Tolerance mm

# FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa Rated speed rpm 800 Del. quantity

cm3/1000 strokes : 261.0

Tolerance

cm3/1000 strokes 3.0

Check tolerance

cm3/1000s. 6.0

Spreed

Tolerance

cm3/1000 strokes : 8.0

Check tolerance

12.0 cm3/1000s.

Aneroid pressure

hPa 500 Rated speed rom Del. quantity

cm3/1000 strokes : 131.0

Tolerance

cm3/1000 strokes 1.0

Check tolerance

cm3/1000s. 4.0

Spreed

Tolerance

cm3/1000 strokes : 6.0

Check tolerance

12.0 cm3/1000s.

# BREAKAWAY

11.60 Rack travel in mm : Rated speed rpm Tolerance 1/min

## STARTING FUEL DELIVERY

Rated speed rpm 100 : > 19.50 rack travel mm

## LOW IDLE

Rated speed rpm 300 rack travel mm 6.40 0.20 Tolerance mm

Del. quantity

38.0 cm3/1000 strokes :

Tolerance

cm3/1000 strokes 3.0

Check tolerance

cm3/1000s. : +-6.0

Spreed

Tolerance

cm3/1000 strokes 8.0

Check tolerance

cm3/1000S. 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS				
Note remarks				
Refer to Service Info for test and adjustment instructions. See microcard(s) W400/				
Edition Test oil	: 12.09.95 : ISO 4113			
Combination No.	: 0 401 416 050			
Injection pump Pump designation EP type number	: PE6R130/700RS1511 : 0 411 436 003			
Governor Governer design. Governer no.	: :			
Cust. part No.	: 3825418 P03			
Customer—spec. information Customer : PENTA Motor : TAD 1631 G Power KW : 558.0				
TEST BENCH REQUIR	EMENTS			
Inlet line	: 3.2			
Test oil inlet temp. °C Tolerance °C	: 40 : +- 2.0			
Overflow valve	: 2 417 413 078			
Inlet press. bar Tolerance bar	: 2.5 : + 0.1			
Test nozzle holde assembly	: 1 688 901 105			
Opening pressure bar Tolerance bar	: 208.5 : + 1.5			

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600				
REMARKS				
(A) INJECTION PUMP SETTING VALUES Set equal delivery quant. per values				
BEGINNING OF DELI	VERY			
Test pressure bar Tolerance bar				
Prestroke mm Tolerance mm	: 4.55 : + 0.05			
test only	: + 0.10			
Rack travel in mm Tolerance mm	: 13.00 : + 0.50			
Firing order	: 1-5- 3- 6- 2- : 4			
Phasing	: 0-60-120-180-240			
Tolerance Check	: −300 : ← 0.30			
tolerance *NW	: +- 0.50			
Start of delivery	mark			
Barrel no.	: 1			
BASIC SETTING				
Rated speed rpm	: 700			
Rack travel in mm Tolerance mm	: 13.60 : ← 0.05			
Del. quantity cm3/1000 strokes	: 473.0			
Tolerance cm3/1000 strokes	: + 2.0			
Check tolerance cm3/1000s.	: +- 5.0			

Spreed Tolerance cm3/1000 strokes	: 11.0			
Check tolerance cm3/1000s.	: 15.0			
Del. quantity cm3/1000 strokes Tolerance	: 95.0			
cm3/1000 strokes	: +- 4.0			
Check tolerance cm3/1000s. Spreed	: ← 7.0			
Tolerance cm3/1000 strokes	: 11.0			
Check tolerance cm3/1000s.	: 15.0			
(B) SETTING OF INJECTION PUMP WITH GOVERNOR				
FULL LOAD DELIVER	Y AT FULL LOAD STOP			
Rated speed rpm Aneroid pressure	: 700			
hPa	: -			
Del. quantity cm3/1000 strokes	: 473.0			
Tolerance cm3/1000 strokes	: +- 2.0			
Check tolerance cm3/1000s. Spreed	: +- 5.0			
Tolerance cm3/1000 strokes	: 11.0			
Check tolerance	45.0			
	•			
LOW IDLE	ndigagi gapagakat mis dalam gagayaya mis dalam ini dalam dalam dalam dalam dalam dalam dalam dalam dalam dalam			
Testing:				
Rated speed rpm rack travel mm Tolerance mm	: 250 : 6.25 : + 0.20			
TORQUE CONTROL				
Rated speed rpm rack travel mm Tolerance mm	: 700 : 13.60 : +- 0.95			

LOW IDLE		
Del. quantity		
cm3/1000 strokes Tolerance	:	95.0
cm3/1000 strokes	: +	4.0
Check tolerance cm3/1000s.	: +-	7.0
Spreed Tolerance		
cm3/1000 strokes	:	11.0
Check tolerance cm3/1000s.	:	15.0

## Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 04.02.91 Test oil : ISO 4113

Combination No. : 0 400 836 043

Injection pump

Pump designation : PES6A100D320/3RS2691

: -2

EP type number : 9 410 230 028

Governor

Governer design. : RQV350...1200AB1245R

Governer no. : 0 420 213 118

Cust. part No. :

Customer-spec. information Customer : CDC Motor : 6CT830 Power KW : 157.0

# TEST BENCH REQUIREMENTS

Inlet line : 2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 017

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

# BEGINNING OF DELIVERY

Test pressure bar : 28.0 Tolerance bar : + 1.0

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: −300 e : +- 0.50

Tolerance Check

tolerance "NW : + 0.75

# BASIC SETTING

Del. quantity cm3/1000 strokes : 114.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s. : +- 3.5

Spreed

Tolerance

cm3/1000 strokes : 4.0

Check tolerance

cm3/1000s. : 6.5

Rated speed rpm : 350

Rack travel in mm: 4.80 Tolerance mm: +- 0.20

Del. quantity

cm3/1000 strokes : 18.0

Tolerance

cm3/1000 strokes : +- 2.0

Check tolerance

cm3/1000s. : + 4.5

Spreed

Tolerance cm3/1000 strokes	: 6.0	tolerance degree : +- 4.0
Check tolerance cm3/1000s.	: 8.0	RATED SPEED
(B) SETTING OF IN		rack travel mm : 9.80 Rated speed rpm : 1245 Tolerance 1/min : +- 5
WITH GOVERNOR		+
		+ rack travel mm : 4.00 + Rated speed rpm : 1330
GUIDE SLEEVE TRAN	VEL .	Tolerance 1/min : ← 15
Rated speed rpm	: 250	rack travel mm : 0.50
guide sleeve	0.40	Tolerance mm : +- 0.50 Rated speed rpm : 1400
travel mm Tolerance mm	: 0.10 : + 0.10	Rated speed rpm : 1400
		+
Rated speed rpm	: 1200	LOU TOUE
guide sleeve travel mm	: 6.90	+ LOW IDLE
Rated speed rpm	: 350	t control lever
guide steeve	• 500	position degree : 62.0
travel mm	: 1.25	tolerance degree : + 4.0
Tolerance mm	: ÷- 0.25	+
		Testing:
Rated speed rpm	: 450	+
guide sleeve	2.45	+ Rated speed rpm : 350 + rack travel mm : 4.80
travel mm Tolerance mm	: 2.15 : +- 0.25	rack travel mm : 4.80 Tolerance mm : + 0.10
loterance mm	: += 0,25	1 toterance mm : - U.IU
Rated speed rpm	: 1350	rack travel mm : 2.00
guide sleeve		+
travel mm	: 8.45	+
Tolerance mm	: +- 0.25	
FIRE LOSS DEL TIER	W AT PUR LOAD CTOD	START CUT-OUT
FOLE LOAD DELIVER	RY AT FULL LOAD STOP	Rated speed rpm : < 290
Rated speed rpm	: 1200	Check
Aneroid pressure		+ speed 1/min : < 300
hPa	:	†
Del. quantity cm3/1000 strokes	. 11/ 0	T
Tolerance	: 114.0	T BREAKAWAY
cm3/1000 strokes	: +- 1.0	+ UNENCAMA!
Check tolerance		1
cm3/1000s.	: <del>←</del> 3.5	Rack travel in mm: 9.80
Spreed		Rated speed rpm : 1245
Tolerance		+ Tolerance 1/min : + 5
cm3/1000 strokes	: 4.0	†
Check tolerance	. 45	<u> </u>
cm3/1000s.	: 6.5	STARTING FUEL DELIVERY
		+ Rated speed rpm : 100
CONTROL LEVER		rack travel mm : 20.00
CONTINUE ELVER		Tolerance mm : + 1.00
control lever		Del. quantity
position degree	: 96.0	+ cm3/1000 strokes : 160.0

Tolerance cm3/1000 strokes : +- 10.0 Check tolerance cm3/1000s. : +- 13.0

# LOW IDLE

Rated speed rpm : 350 rack travel mm : 4.80 Tolerance mm : +- 0.20 Del. quantity cm3/1000 strokes : 18.0 Tolerance cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s. 4.5 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance 8.0 cm3/1000s.

### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 04.10.95

Test oil

: ISO 4113

Combination No. : 0 402 670 811

Injection pump

Pump designation : PE12P12OA52O/5RS7385

EP type number : 0 412 620 846

Governor

Governer design. : RSUV300...1150P0A364

Governer no. : 0 421 829 112

Cust. part No. : 12277646KY0120-17

Customer-spec, information

Customer

: MWM

: TBD 616-V12 Motor

Power KW

: 648.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

Tolerance °C

2.0

Overflow valve : 1 417 413 025

Inlet press. bar :

1.5

Tolerance bar : +-

0.1

Test nozzle holde

assembly

: 1 688 901 019

Opening pressure

bar

208.5

Tolerance bar

1.5

Test Lines

: 1 680 750 075

Outside diameter :

8.0

x inside diameter : 3 x length mm : 1000 3.0

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : + 1.0

Prestroke mm 4.65 : +- 0.05 Tolerance mm

: ← 0.10 test only

Rack travel in mm: 13.00

: **←** 0.50 Tolerance mm

> : 1-2-9-10-5-6 : - 11- 12- 3- 4

: - 7- 8

: 0-30-60-90-120-150 Phasing

: -180-210-240-270

: -300-330

: + - 0.30Tolerance

Check

: **←** 0.50 tolerance "NW

Start of delivery mark

Barrel no.

Firing order

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm: 12.60 Tolerance mm : ← 0.05

Del. quantity

cm3/1000 strokes : 262.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s. : ← 4.0	control lever
Spreed	position degree : 113.0 tolerance degree : +- 4.0
Tolerance cm3/1000 strokes : 6.0	RATED SPEED
Check tolerance cm3/1000s. 9.0	rack travel mm : 11.60 Rated speed rpm : 1193 Tolerance 1/min : +- 5
Rated speed rpm : 300	rack travel mm : 4.00
Rack travel in mm : 6.40 Tolerance mm : + 0.20 Del. quantity	Rated speed rpm : 1270 Tolerance 1/min : + 15
cm3/1000 strokes : 38.0 + Tolerance +	rack travel mm : 1.00 Tolerance mm : +- 0.70
cm3/1000 strokes : +- 3.0 + Check tolerance +	Rated speed rpm : 1380
cm3/1000s. : +- 6.0 +- 5preed	rack travel mm : 4.00 Rated speed rpm : 1280
Tolerance cm3/1000 strokes : 8.0	
Check tolerance cm3/1000s. : 12.0	LOW IDLE
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	control lever position degree : 74.0 tolerance degree : + 4.0
GUIDE SLEEVE POSITION	Setting point w/out bumper spring
Rated speed rpm : 800	Rated speed rpm : 300 rack travel mm : 5.90
Rack travel in mm: 0.50 Tolerance mm: + 0.20	Testing:
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 300 rack travel mm : 6.40 Tolerance mm : +- 0.10
Rated speed rpm : 1i50	rack travel mm : 2.00
Aneroid pressure hPa : 1250	Rated speed rpm : 450 Tolerance 1/min : + 30
Del. quantity cm3/1000 strokes : 262.0	TORQUE CONTROL
cm3/1000 strokes : + 1.0	Rated speed rpm : 1150
Check tolerance cm3/1000s. : +- 4.0 Spreed	rack travel mm : 12.60 Tolerance mm : +- 0.05
Tolerance + cm3/1000 strokes : 6.0 + Check tolerance +	Rated speed rpm : 800 rack travel mm : 12.60
cm3/1000s. : 9.0	Tolerance mm : + 0.10
	Rated speed rpm : 500 rack travel mm : 12.60
CONTROL LEVER +	Tolerance mm : ÷ 0.10

ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 600 : 1250 : 12.60 : + 0.05
MEASUREMENT	
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 600 : 8.60 : + 0.10
Rated speed rpm	: 600
Pressure hPa rack travel mm Tolerance mm	: 670 : 11.40 : +- 0.10
Pressure hPa rack travel mm Tolerance mm	: 450 : 9.60 : +- 0.05
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa Rated speed rpm Del. quantity	: 1250 : 800
cm3/1000 strokes Tolerance	: 261.0
cm3/1000 strokes	: <b>←</b> 3.0
Check tolerance cm3/1000s. Spreed	: +- 6.0
Tolerance cm3/1000 strokes	: 8.0
Check tolerance cm3/1000S.	: 12.0
Aneroid pressure	
hPa Rated speed rom	: 500
hPa	: 500 : 131.0

: + 4.0

Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. 12.0 BREAKAWAY Rack travel in mm : 11.60 Rated speed rpm : 1193 Tolerance 1/min : +- 5 STARTING FUEL DELIVERY 100 Rated speed rpm : 16.00 rack travel mm : : **←** 0.50 Tolerance mm Del. quantity cm3/1000 strokes : 347.0 Tolerance cm3/1000 strokes : + 14.0Check tolerance cm3/1000s. : +- 20.0 LOW IDLE 300 Rated speed rpm : rack travel mm : 6.40 : + 0.20 Tolerance mm Del. quantity cm3/1000 strokes : 38.0 Tolerance cm3/1000 strokes : +-Check tolerance cm3/1000s. : +-6.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s.12.0 End of test specification sheet

cm3/1000S. Spreed

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 29.89.95 Test oil : ISO 4113

Combination No. : 0 402 678 829

Injection pump

Pump designation : PE8P120A520/5RS7384

EP type number : 0 412 628 909

Governor

Governer design. : RSUV300...1150P0A364

Governer no. : 0 421 829 112

Cust. part No. : 12277644KY0120-17

Customer-spec. information

Customer : MWM

Motor : TBD 616 V8

Power KW : 432.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 49
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : +- 0.1

Test nozzle holde

assembly : 1 688 901 019

Opening pressure

bar : 208.5 Tolerance bar : +- 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.65
Tolerance mm : + 0.05

test only : +- 0.10

Rack travel in mm: 13.00
Tolerance mm: + 0.50

Firing order : 1-8-5-4-7

: - 2- 3- 6

Phasing : 0-30-90-120-180

: −210−270−300 : ← 0.30

Check

Tolerance

tolerance \*NW : +- 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm: 12.60 Tolerance mm: + 0.05

Del. quantity

cm3/1000 strokes : 262.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 4.0

		<del>-1-</del>	
Spreed Tolerance cm3/1000 strokes	: 6.0	control lever position degree tolerance degree	: 115.0 : +- 4.0
Check tolerance cm3/1000s.	: 9.0	RATED SPEED	
Rated speed rpm	: 300	rack travel mm Rated speed rpm Tolerance 1/min	
Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes	: <del></del> 0.20	rack travel mm Rated speed rpm Tolerance 1/min	: 4.00 : 1270
Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: +- 3.0 : +- 6.0	rack travel mm Tolerance mm Rated speed rpm	: 1.00 : +- 0.70 : 1380
Spreed Tolerance cm3/1000 strokes Check tolerance cm3/10008.		rack travel mm Rated speed rpm	: 4.00
(B) SETTING OF INJ		LOW IDLE	
		<ul><li>control lever</li><li>position degree</li><li>tolerance degree</li></ul>	
GUIDE SLEEVE POSIT	ION	+ Setting point w/o	ut humner sn
Rated speed rpm Rack travel in mm Tolerance mm	: 0.50	Rated speed rpm rack travel mm	: 300
FULL LOAD DELIVERY Rated speed rpm Aneroid pressure		Rated speed rpm rack travel mm Tolerance mm	: 6.40 : + 6.10
hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes		rack travel mm Rated speed rpm Tolerance 1/min	: 450
Check tolerance cm3/1000s.	4.0	TORGUE CONTROL Rated speed rpm	
Tolerance cm3/1000 strokes : Check tolerance		rack travel mm Tolerance mm	
cm3/1000s. :	9.0	+ Rated speed rpm - rack travel mm - Tolerance mm	: 800 : 12.60 : + 0.10
CONTROL LEVER		<del>-</del>	

spring

ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 600 : 1250 : 12.60 : +- 0.05
MEASUREMENT	
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 600 : 8.60 : ← 0.10
Rated speed rpm	: 600
Pressure hPa rack travel mm Tolerance mm	: 670 : 11.40 : + 0.20
Pressure hPa rack travel mm Tolerance mm	: 450 : 9.60 : + 0.05
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure	
hPa Rated speed rpm	: - : 800
Del. quantity cm3/1000 strokes Tolerance	: 261.0
cm3/1000 strokes Check tolerance	: +- 3.0
cm3/1000s. Spreed	: <b>←</b> 6.0
Tolerance cm3/1000 strokes	: 8.0
Check tolerance cm3/1000S.	: 12.0
nPa Rated speed rom	: - : 500
nPa Rated speed rpm Del. quantity cm3/1000 strokes	
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	

: +- 4.0

Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. 12.0 BREAKAWAY Rack travel in mm : 11.60 Rated speed rpm : 1193 Tolerance 1/min : +- 5 STARTING FUEL DELIVERY 100 Rated speed rpm rack travel mm : 16.20 : + 0.20Tolerance mm Del. quantity cm3/1000 strokes : 347.0 Tolerance cm3/1000 strokes : + 14.0 Check tolerance cm3/1000s. : +- 20.0 LOW IDLE 300 Rated speed rpm : rack travel mm : 6.40 Tolerance mm : **-** 0.20 Del. quantity cm3/1000 strokes : 38.0 Tolerance 3.0 cm3/1000 strokes : +-Check tolerance cm3/1000s. 6.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. 12.0

End of test specification sheet

cm3/1000s.

Spreed

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : 29.09.95 : ISO 4113

Combination No. : 0 402 646 652

Injection pump

Pump designation : PE6P130A720RS7137

: -10

EP type number

: 0 412 636 832

Governor

Governer design. : RQ750PA865-3 Governer no.

: 0 421 801 751

Cust. part No. : 866371 PQ3 v. 6/94

Customer-spec. information : PENTA Customer

: TWD 1630 G Motor

: 392.0 Power KW

TEST BENCH REQUIREMENTS

Inlet Line

: 4.2

Vibration

damper

(RoBo diaphragm) : 3.1

Test oil inlet

temp. °C

Tolerance \*C

: +- 2.0

Overflow valve

: 1 417 413 010

Inlet press. bar : 1.5

Test nozzle nolde

assembly

: 1 688 901 019

Opening pressure

bar

: 208.5

Tolerance bar : +- 1.5

K07

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter:

x Length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

26.0 Test pressure bar : Tolerance bar : +-

3.65 Prestroke mm Tolerance mm

test only

: +- 0.10

Rack travel in mm: 10.50

Tolerance mm

: +- 1.50

Firing order

: 1-5-3-6-2-

: 4

Phasing

: 0-60-120-180-240

: -300

Tolerance Check

: + 0.30

tolerance °NW

: ← 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm :

700

Rack travel in mm: 14.25

Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes :

450.0

Tolerance cm3/1000 strokes : +- 1.5	+ Rated speed rpm : 850
Check tolerance cm3/1000s. : +- 5.0	Rated speed rpm : 748 rack travel mm : 13.25
Spreed Tolerance cm3/1000 strokes : 7.0	Rated speed rpm : 787 Tolerance 1/min : + 5 rack travel mm : 4.00
Check tolerance cm3/1000s. : 11.0	rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 850
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Rated speed rpm : 749 rack travel mm : 13.25
	Rated speed rpm : 788
FULL LOAD DELIVERY AT FULL LOAD STOP	+ Tolerance 1/min : + 5
Rated speed rpm : 700	track travel mm : 4.00
Aneroid pressure	rack travel mm : 0.50
hPa : -	+ Tolerance mm : + 0.50
Del. quantity	Rated speed rpm : 850
cm3/1000 strokes : 450.0 Tolerance	Rated speed rpm : 750
cm3/1000 strokes : + 1.5 Check tolerance	rack travel mm : 13.25
cm3/1000s. : +- 5.0	Rated speed rpm : 789
Spreed	+ Tolerance 1/min : + 5
Tolerance	+ rack travel mm : 4.00
cm3/1000 strokes : 7.0	1
Check tolerance cm3/1000s. : 11.0	+ rack travel mm : 0.50 + Tolerance mm : + 0.50
CHS/10005 17.0	Rated speed rpm : 850
	Rated speed rpm : 751
CONTROL LEVER	rack travel mm : 13.25
control lever	Rated speed rpm : 790
position degree : 29.0	+ Tolerance 1/min : + 5
tolerance degree : +- 4.0	rack travel mm : 4.00
control lever	Track travel mm : 0.50
position degree : 90.0	Tolerance mm : +- 0.50
tolerance degree : + 4.0	Rated speed rpm : 850
RATED SPEED	Rated speed rpm : 752
rack travel mm : 13.25	rack travel mm : 13.25
Rated speed rom : 751	Rated speed rpm : 791
Tolerance 1/min : + 3	+ Tolerance 1/min : + 5
	rack travel mm : 4.00
rack travel mm : 4.00 Rated speed rpm : 789	rack travel mm : 0.50
Rated speed rpm : 789 Tolerance 1/min : +- 7	Tolerance mm : + 0.50
TOCOL MITTOC TANDEL TO TOCOL MITTOCK TO THE TOCK TO THE TOCOL MITTOCK TOCOL MITTOCK TO THE TOCOL MITTOCK TOCK TO THE TOCOL MITTOCK TO THE TOCOL MITTOCK TO THE TOCOL MITTOCK TO THE TOCOL MITTOCK TO T	Rated speed rpm : 850
rack travel mm : 0.50	+
Tolerance mm : + 0.50	+ Rated speed rpm : 753

rack travel mm : 13.25

Rated speed rpm : 792
Tolerance 1/min : +- 5
rack travel mm : 4.00

TORQUE CONTROL

Rated speed rpm : 700 rack travel mm : 14.25 Tolerance mm : + 0.05

BREAKAWAY

Rack travel in mm : 13.25
Rated speed rpm : 751
Tolerance 1/min : + 3

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 13.10.95 Test oil : ISO 4113

Combination No. : 0 401 848 829

Injection pump

Pump designation : PE8P110A320LS3865 EP type number : 0 411 818 728

Governor

Governer design. : RQ250/1150PA1250 Governer no. : 0 421 801 796

Cust. part No. :

Customer—spec. information Customer : DAEWOO Motor : V2-8NA

#### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.00 Tolerance mm : + 0.05

test only :  $\div$  0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 8-7-2-6-3

: - 5- 4- 1

Phasing : 0-45-90-135-180 : -225-270-315

Tolerance :  $\leftarrow$  0.30

Check

tolerance °NW : +- 0.50

Start of delivery mark

Barrel no. : 8

#### BASIC SETTING

cm3/1000s.

Rated speed rpm : 1150

Rack travel in mm: 11.80 Tolerance mm: + 0.05

Del. quantity cm3/1000 strokes : 126.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance

: +- 4.0

Connect	†
Spreed Tolerance	GUIDE SLEEVE POSITION
cm3/1000 strokes : 6.0	T GOIDE SECENE LOSTITON
CHO 7 1000 311 0x23 . 0.0	Rated speed rpm : 700
Check tolerance	+
cm3/1000s. : 10.0	Rack travel in mm: 15.50
	+ Tolerance mm : + 1.30
Rated speed rpm : 250	†
Rack travel in mm : 8.10	FULL LOAD DELIVERY AT FULL LOAD STOP
Tolerance mm : + 0.30	- I SEE COND DECENCE AT TOLE COND STOP
Del. quantity	Rated speed rpm : 1150
cm3/1000 strokes : 25.0	Aneroid pressure
Tolerance	hPa : -
cm3/1000 strokes : +- 3.0	+ Del. quantity
Check tolerance cm3/1000s. : +- 6.0	+ cm3/1000 strokes : 126.0 + Tolerance
Spreed	+ cm3/1000 strokes : ← 1.0
Tolerance	- Check tolerance
cm3/1000 strokes : 6.0	cm3/1000s. : + 4.0
Check tolerance	Spreed
cm3/1000s. : 10.0	+ Tolerance
	+ cm3/1000 strokes : 6.0 + Check tolerance
(B) SETTING OF INJECTION PUMP	+ theck tolerance + cm3/1000s. : 10.0
WITH GOVERNOR	10.0
	<del>\</del>
GUIDE SLEEVE TRAVEL	† CONTROL LEVER
Rated speed rpm : 250	T control lever
guide steeve	position degree : 36.0
travel mm : 1.59	tolerance degree : + 4.0
Tolerance mm : + 0.20	†
Datad around name a 1205	+ control lever + position degree : 98.0
Rated speed rpm : 1205 guide steeve	<pre>position degree : 98.0 tolerance degree : +- 4.0</pre>
travel mm : 7.34	total ance degree 4.0
Tolerance mm : + 0.15	RATED SPEED
	+
Rated speed rpm : 1150	+ rack travel mm : 10.80
guide sleeve travel mm : 7.00	+ Rated speed rpm : 1203 + Tolerance 1/min : + 5
travel mm : 7.00 Tolerance mm : + 0.10	T loceronce Diffin : T
TOTAL MATERIAL TOTAL CONTRACTOR	rack travel mm : 4.00
Rated speed rpm : 414	Rated speed rpm : 1260
guide sleeve	+ Tolerance 1/min : + 15
travel mm : 5.47	7 201 4201 0.50
Tolerance mma : + 0.10	+ rack travel mm : 0.50 + Tolerance mm : +- 0.50
Rated speed rom : 510	+ Rated speed rpm : 1350
guide sleeve	+ Added operation . 1990
travel mm : 7.00	+
Tolerance mm : + 0.10	
Pater and and A7/0	+ LOW IDLE
Rated speed rpm : 1340	İ
guide sleeve travel mm : 11.50	- control lever
Tolerance mm : + 0.50	position degree : 77.0
The waste of the way o	, and the second second second second second second second second second second second second second second se

tolerance degree	: +- 4.0
control lever position degree tolerance degree	: 14.0 : +- 4.0
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 250 : 8.10 : ← 0.10
rack travel mm Rated speed rpm Tolerance 1/min	: 400
Rated speed rpm	: 150
CRT mm min.	: > 9.90
TORQUE CONTROL	
Rated speed rpm rack travel mm Tolerance mm	: 1150 : 11.80 : + 0.05
Rated speed rpm rack travel mm Tolerance mm	: 650 : 11.80 : + 0.10
START CUT-OUT	
Rated speed rpm Check	: < 170
speed 1/min	: < 190
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure	: -
Rated speed rpm	: 650
Del. quantity	
cm3/1000 strokes	: 127.0
Tolerance cm3/1000 strokes	: +- 3.0
Check tolerance	
cm3/1000s.	: +- 6.0
BREAKAWAY	
Rack travel in mm Rated speed rpm Tolerance 1/min	: 10.80 : 1203 : +- 5

STARTING FUEL DEL	.IVERY		
Rated speed rpm Del. quantity	:	100	
cm3/1000 strokes Tolerance	:	135.0	
cm3/1000 strokes Check tolerance	: +-	20.0	
cm3/1000s.	: +-	24.0	
LOW TOLE			<del></del>
LOW IDLE			
Rated speed rpm	:	250	
rack travel mm	: +-	8.10	
Tolerance mm	: +-	0.30	
Del. quantity			
cm3/1000 strokes	:	25.0	
Tolerance cm3/1000 strokes		3.0	
Check tolerance	• '	5.0	
cm3/1000s.	: +	6.0	
Spreed			
Tolerance			
cm3/1000 strokes	:	6.0	
Check tolerance cm3/1000s.	•	10.0	
Cili 57 10000 2	•	10.0	

BOSCH INJ. PUMP TEST SPECIFICATIONS Note remarks Refer to Service Info for test and adjustment instructions. See microcard(s) W400/... Edition : 16.10.95 : iso 4113 Test oil Combination No. : 0 401 876 345 Injection pump Pump designation : PE6P12DA32ORS3301 EP type number : 0 411 826 805 Governor Governer design. : RSV250...1100P0A374 : -12 Governer no. : 0 421 833 375 Cust. part No. : 865409 PO4 v. 6/95 Customer-spec. information Customer : PENTA : TAMD 102 D Motor TEST BENCH REQUIREMENTS : 3.2 Inlet line Vibration damper (RoBo diaphragm): 4.1 Test oil inlet 40 temp. °C Tolerance °C Overflow valve : 2 417 413 077 Inlet press. bar : Tolerance bar : + 0.1 Test nozzle holde : 1 688 901 019 assembly

: 208.5

Test lines : 1 680 750 075 Outside diameter : 8.0 x inside diameter : 3.0
x length mm : 1000 REMARKS (A) INJECTION PUMP SETTING VALUES Set equal delivery quant. per values \_\_\_\_\_ BEGINNING OF DELIVERY Test pressure bar : Tolerance bar : +- 1.0 Prestroke mm : 3.45
Tolerance mm : + 0.05 test only : **←** 0.10 Rack travel in mm : 10.50 Tolerance mm : + 1.50 Firing order : 1-5-3-6-2-: 4 Phasing : 0-60-120-180-240 : -300 Tolerance :  $\leftarrow$  0.30 Check tolerance \*NW : + 0.75 Start of delivery mark Barrel no. : 1 BASIC SETTING Rated speed rpm : 1100 Rack travel in mm: 13.30 Tolerance mm : ÷ 0.05 Del. quantity cm3/1000 strokes : 280.0

bar

Opening pressure

Tolerance bar : +- 1.5

	1	
Tolerance		•
cm3/1000 strokes	: + 1.0	CONTROL LEVER
Check tolerance		CONTRUE LEVER
cm3/1000s.	: + 4.0	control lever
	1	position degree : 44.0
Spreed		tolerance degree : +- 4.0
Tolerance	+	
cm3/1000 strokes	: 7.0	control lever
Check tolerance		position degree : 94.0 tolerance degree : +- 4.0
cm3/1000s.	: 11.0 I	toterance degree . *- 4.0
	1	RATED SPEED
Del. quantity	+	
cm3/1000 strokes	: 24.0	rack travel mm : 12.30
Tolerance	+	Rated speed rpm : 1145
cm3/1000 strokes	: + 2.5	Tolerance 1/min : +- 5
Check tolerance cm3/1000s.	: +- 5.0	rack travel mm : 4.00
Spreed	1	Rated speed rpm : 1230
Tolerance	1	Tolerance 1/min : + 15
cm3/1000 strokes	: 3.0	
Check tolerance	+	rack travel mm : 0.85
cm3/1000s.	: 6.0	Tolerance mm : +- 0.55
	†	Rated speed rpm : 1350
(B) SETTING OF IN	LIECTION PIMP	rack travel mm : 4.00
WITH GOVERNOR	-	Rated speed rpm : 1240
	i	•
	+	
	‡	
GUIDE SLEEVE POSI	TION	LOW IDLE
GUIDE SLEEVE POSI	+	LOW IDLE
GUIDE SLEEVE POSI	+	
Rated speed rpm	: 800	control lever
Rated speed rpm Rack travel in mm	: 800 : 0.85	control lever position degree : 69.0
Rated speed rpm	: 800	control lever
Rated speed rpm Rack travel in mm Tolerance mm	: 800 : 0.85	control lever position degree : 69.0 tolerance degree : +- 4.0
Rated speed rpm Rack travel in mm	: 800 : 0.85	control lever position degree : 69.0
Rated speed rpm Rack travel in mm Tolerance mm governor spring	: 800 : 0.85 : + 0.55	control lever position degree : 69.0 tolerance degree : + 4.0 control lever
Rated speed rpm Rack travel in mm Tolerance mm governor spring pre-tension	: 800 : 0.85 : + 0.55	control lever position degree : 69.0 tolerance degree : + 4.0  control lever position degree : 19.0 tolerance degree : + 4.0
Rated speed rpm Rack travel in mm Tolerance mm governor spring pre-tension click setting x	: 800 : 0.85 : + 0.55	control lever position degree : 69.0 tolerance degree : +- 4.0  control lever position degree : 19.0
Rated speed rpm Rack travel in mm Tolerance mm governor spring pre-tension click setting x	: 800 : 0.85 : + 0.55	control lever position degree : 69.0 tolerance degree : + 4.0  control lever position degree : 19.0 tolerance degree : + 4.0  Setting point w/out bumper spring
Rated speed rpm Rack travel in mm Tolerance mm governor spring pre-tension click setting x  FULL LOAD DELIVER	: 800 : 0.85 : + 0.55 : 2.25	control lever position degree : 69.0 tolerance degree : + 4.0  control lever position degree : 19.0 tolerance degree : + 4.0  Setting point w/out bumper spring  Rated speed rpm : 250
Rated speed rpm  Rack travel in mm Tolerance mm  governor spring pre-tension click setting x  FULL LOAD DELIVER Rated speed rpm	: 800 : 0.85 : + 0.55 : 2.25	control lever position degree : 69.0 tolerance degree : + 4.0  control lever position degree : 19.0 tolerance degree : + 4.0  Setting point w/out bumper spring
Rated speed rpm Rack travel in mm Tolerance mm governor spring pre-tension click setting x  FULL LOAD DELIVER	: 800 : 0.85 : + 0.55 : 2.25	control lever position degree : 69.0 tolerance degree : + 4.0  control lever position degree : 19.0 tolerance degree : + 4.0  Setting point w/out bumper spring  Rated speed rpm : 250
Rated speed rpm Rack travel in mm Tolerance mm governor spring pre-tension click setting x  FULL LOAD DELIVER Rated speed rpm Aneroid pressure hPa Del. quantity	: 800 : 0.85 : + 0.55 : 2.25 Y AT FULL LOAD STOP : 1100 : 1500	control lever position degree : 69.0 tolerance degree : + 4.0  control lever position degree : 19.0 tolerance degree : + 4.0  Setting point w/out bumper spring  Rated speed rpm : 250 rack travel mm : 5.70  Testing:
Rated speed rpm Rack travel in mm Tolerance mm governor spring pre-tension click setting x  FULL LOAD DELIVER Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes	: 800 : 0.85 : + 0.55 : 2.25 Y AT FULL LOAD STOP : 1100 : 1500	control lever position degree : 69.0 tolerance degree : + 4.0  control lever position degree : 19.0 tolerance degree : + 4.0  Setting point w/out bumper spring  Rated speed rpm : 250 rack travel mm : 5.70  Testing:  Rated speed rpm : 250
Rated speed rpm Rack travel in mm Tolerance mm governor spring pre-tension click setting x  FULL LOAD DELIVER Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance	: 800 : 0.85 : + 0.55 : 2.25 Y AT FULL LOAD STOP : 1100 : 1500 : 280.0	control lever position degree : 69.0 tolerance degree : + 4.0  control lever position degree : 19.0 tolerance degree : + 4.0  Setting point w/out bumper spring  Rated speed rpm : 250 rack travel mm : 5.70  Testing:  Rated speed rpm : 250 rack travel mm : 6.20
Rated speed rpm Rack travel in mm Tolerance mm governor spring pre-tension click setting x  FULL LOAD DELIVER Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: 800 : 0.85 : + 0.55 : 2.25 Y AT FULL LOAD STOP : 1100 : 1500 : 280.0	control lever position degree : 69.0 tolerance degree : + 4.0  control lever position degree : 19.0 tolerance degree : + 4.0  Setting point w/out bumper spring  Rated speed rpm : 250 rack travel mm : 5.70  Testing:  Rated speed rpm : 250
Rack travel in mm Tolerance mm  governor spring pre-tension click setting x  FULL LOAD DELIVER Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: 800 : 0.85 : + 0.55 : 2.25  Y AT FULL LOAD STOP : 1100 : 1500 : 280.0 : + 1.0	control lever position degree : 69.0 tolerance degree : + 4.0  control lever position degree : 19.0 tolerance degree : + 4.0  Setting point w/out bumper spring  Rated speed rpm : 250 rack travel mm : 5.70  Testing:  Rated speed rpm : 250 rack travel mm : 6.20 Tolerance mm : + 0.10
Rated speed rpm  Rack travel in mm  Tolerance mm  governor spring pre-tension click setting x  FULL LOAD DELIVER  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 800 : 0.85 : + 0.55 : 2.25  Y AT FULL LOAD STOP : 1100 : 1500 : 280.0 : + 1.0	control lever position degree : 69.0 tolerance degree : + 4.0  control lever position degree : 19.0 tolerance degree : + 4.0  Setting point w/out bumper spring  Rated speed rpm : 250 rack travel mm : 5.70  Testing:  Rated speed rpm : 250 rack travel mm : 6.20 Tolerance mm : + 0.10  rack travel mm : 2.00
Rated speed rpm Rack travel in mm Tolerance mm governor spring pre-tension click setting x  FULL LOAD DELIVER Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: 800 : 0.85 : + 0.55 : 2.25  Y AT FULL LOAD STOP : 1100 : 1500 : 280.0 : + 1.0 : + 4.0	control lever position degree : 69.0 tolerance degree : + 4.0  control lever position degree : 19.0 tolerance degree : + 4.0  Setting point w/out bumper spring  Rated speed rpm : 250 rack travel mm : 5.70  Testing:  Rated speed rpm : 250 rack travel mm : 6.20 Tolerance mm : + 0.10  rack travel mm : 2.00
Rated speed rpm  Rack travel in mm  Tolerance mm  governor spring pre-tension click setting x  FULL LOAD DELIVER  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes	: 800 : 0.85 : + 0.55 : 2.25  Y AT FULL LOAD STOP : 1100 : 1500 : 280.0 : + 1.0 : + 4.0	control lever position degree : 69.0 tolerance degree : + 4.0  control lever position degree : 19.0 tolerance degree : + 4.0  Setting point w/out bumper spring  Rated speed rpm : 250 rack travel mm : 5.70  Testing:  Rated speed rpm : 250 rack travel mm : 6.20 Tolerance mm : + 0.10  rack travel mm : 2.00 Rated speed rpm : 370
Rated speed rpm  Rack travel in mm Tolerance mm  governor spring pre-tension click setting x  FULL LOAD DELIVER  Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance	: 800 : 0.85 : + 0.55 : 2.25  Y AT FULL LOAD STOP : 1100 : 1500 : 280.0 : + 1.0 : + 4.0	control lever position degree : 69.0 tolerance degree : + 4.0  control lever position degree : 19.0 tolerance degree : + 4.0  Setting point w/out bumper spring  Rated speed rpm : 250 rack travel mm : 5.70  Testing:  Rated speed rpm : 250 rack travel mm : 6.20 Tolerance mm : + 0.10  rack travel mm : 2.00 Rated speed rpm : 370

Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm ANEROID/ALTITUDE COMPENSATOR TEST	: 1100 : 13.30 : + 0.05 : 700 : 13.30 : + 0.05	
SETTING		
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 1500 : 13.30 : ← 0.05	
MEASUREMENT		
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 500 : 8.10 : + 0.10	
Rated speed rpm	: 500	
Pressure hPa rack travel mm Tolerance mm	: 1100 : 4.70 : + 0.15	
Pressure hPa rack travel mm Tolerance mm	: 150 : 0.25 : +- 0.05	
FUEL DELIVERY CHARACTERISTICS		
Aneroid pressure hPa Rated speed rpm Del. quantity	: 1500 : 700	
cm3/1000 strokes Tolerance	: 303.0	
cm3/1000 strokes Check tolerance	: <b>←</b> 3.0	
cm3/1000S. Spreed	: +- 6.0	
Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 8.0 : 12.0	
Aneroid pressure		
hPa Rated speed rpm	: - : 700	

Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	
BREAKAWAY	
Rack travel in mm Rated speed rpm Tolerance 1/min	: 1145
STARTING FUEL DEL	IVERY
Rated speed rpm rack travel mm Tolerance mm	: 100 : 15.00 : +- 0.50
LOW IDLE	
Del. quantity cm3/1000 strokes Tolerance	: 24.0
cm3/1000 strokes Check tolerance	: + 2.5
cm3/1000s. Spreed	: <b>←</b> 5.0
Tolerance cm3/1000 strokes Check tolerance	: 3.0

# End of test specification sheet

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Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : 18,10,95 : ISO 4113

Combination No. : 0 401 876 346

Injection pump

Pump designation : PE6P110A320RS497 EP type number : 0 411 816 165

Governor

Governer design. : RSV250...1200P1A374

: -14

: 0 421 833 464 Governer no.

Cust. part No. : 866537-P03 v. 12/94

Customer-spec. information : PENTA Customer

: TID 72A Motor

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration

damper

(RoBo diaphragm) : 4.2

Test oil inlet

temp. °C Tolerance °C 2.0

Overflow valve : 1 457 413 010

Inlet press. bar : 1.5 : <del>←</del> 0.1 Tolerance bar

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

: 173.5 bar Tolerance bar : + 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0 x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm 3.05 : + 0.05 Tolerance mm

test only : +- 0.10

Rack travel in mm : 10.50 Tolerance max : +- 1.50

: 1-5- 3- 6- 2-Firing order

: 4

: 0-60-120-180-240 Phasing

: -300

: + - 0.30Tolerance

Check

tolerance °NW : + 0.75

Start of delivery mark

Barrel no. :

BASIC SETTING

700 Rated speed rpm :

Rack travel in mm: 12.85

: +- 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 139.0

Tolerance	Rated speed rpm : 250 rack travel mm : 5.20
	+
Check tolerance cm3/1000s. : +- 4.0	Testing:
Spreed	Rated speed rpm : 250 rack travel mm : 4.70
Tolerance cm3/1000 strokes : 4.0	Tolerance mm : +- 0.10
Check tolerance cm3/1000s. 7.5	ANEROID/ALTITUDE COMPENSATOR TEST
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	SETTING
	Rated speed rpm : 500 Pressure hPa : 1500
GUIDE SLEEVE POSITION	rack travel mm : 12.85 Tolerance mm : + 0.05
governor spring pre-tension	MEASUREMENT
click setting x : 5.50	† Pressure hPa : - Rated speed rpm : 500
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : 9.40 Tolerance mm : + 0.10
Rated speed rpm : 700 - Aneroid pressure	Rated speed rpm : 500
hPa : 1500	
Del. quantity - cm3/1000 strokes : 139.0 -	Pressure hPa : 910 rack travel mm : 3.10
Tolerance - cm3/1000 strokes : + 1.0 -	Tolerance mm : + 0.10
Check tolerance	Pressure hPa : 310 rack travel mm : 0.25
Spreed -	Tolerance mm : U.25  + Tolerance mm : + 0.05
Tolerance cm3/1000 strokes : 4.0	
Check tolerance cm3/1000s. : 7.5	FUEL DELIVERY CHARACTERISTICS
	Aneroid pressure
RATED SPEED	hPa : - Rated speed rpm : 700
rack travel mm : 11.85	Del. quantity
Rated speed rpm : 1215 - Tolerance 1/min : +- 5	cm3/1000 strokes : 77.0 Tolerance
	cm3/1000 strokes : + 1.0 Check tolerance
rack travel mm : 0.85 - Tolerance mm : +- 0.55 - Rated speed rpm : 1400 -	- cm3/1000S. : +- 4.0
	BREAKAWAY
LOW IDLE	
Setting point w/out bumper spring	Rack travel in mm : 11.85 Rated speed rpm : 1215
Second house wood position objects	Ageca opeca (pm - 1617

Tolerance 1/min : + 5

## STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : + 0.50

Del. quantity

cm3/1000 strokes : 200.0

Tolerance

cm3/1000 strokes : +- 15.0

Check tolerance

cm3/1000s. :  $\leftarrow$  19.0

### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 16.10.95 Test oil : ISO 4113

Combination No. : 0 401 876 762

## Injection pump

Pump designation : PE6P12DA32DRS32D6 EP type number : 0 411 826 773

### Governor

Governer design. : RSV250...900P4A374

: -7

Governer no. : 0 421 833 284

Cust. part No. : 863094 P04 v. 6/95

## Customer-spec, information

Customer : VOLVO-PENTA
Motor : TMD 122 A (HD)

Power KW : 236.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.2

Vibration

damper

(RoBo diaphragm): 4.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 019

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

# BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.55
Tolerance mm : + 0.05

test only :  $\leftarrow$  0.10

Rack travel in mm : 8.50 Tolerance mm : + 0.50

Firing order : 1- 5- 3- 6- 2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.30

Check

tolerance \*NW : + 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm: 9.95
Tolerance mm: + 0.05

Del. quantity

cm3/1000 strokes : 213.5

Tolerance	RATED SPEED
	rack travel mm : 8.95
Check tolerance - cm3/1000s. : +- 4.0 -	Rated speed rpm : 930 Tolerance 1/min : +- 5
Spreed Tolerance cm3/1000 strokes : 5.0	rack travel mm : 4.00 Rated speed rpm : 980 Tolerance 1/min : +- 15
Check tolerance cm3/1000s. : 9.0	rack travel mm : 0.85 Tolerance mm : +- 0.55 Pated speed rpm : 1130
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	LOW IDLE
	LOW TOLL
GUIDE SLEEVE POSITION -	control lever
	position degree : 79.0
Rated speed rpm : 800	tolerance degree : + 4.0
Rack travel in mm: 0.50	control lever
Tolerance mm : + 0.20	position degree : 29.0
dovernos ennino	tolerance degree : +- 4.0
governor spring pre-tension	Setting point w/out bumper spring
click setting x : 6.00	
	Rated speed rpm : 250
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : 4.60
	Testing:
Rated speed rpm : 700	250
Aneroid pressure + 1000 +	Rated speed rpm : 250 rack travel mm : 5.10
Del. quantity	rack travel mm : 5.10 Tolerance mm : + 0.10
cm3/1000 strokes : 213.5	
Tolerance	rack travel mm : 2.00
cm3/1000 strokes : + 1.0	- Rated speed rpm : 410 - Tolerance 1/min : +- 30
Check tolerance cm3/1000s. : + 4.0	- Tolerance 1/min : +- 30
Spreed	
Tolerance	AMPROVA (A) TETTO
cm3/1000 strokes : 5.0	- ANEROID/ALTITUDE - COMPENSATOR TEST
Check tolerance cm3/1000s. : 9.0	- COMPENSATOR TEST
	•
	- SETTING
CONTROL LEVER	- Rated speed rpm : 700
+	Pressure hPa : 1000
control lever	rack travel mm : 9.95
position degree : 57.0 + tolerance degree : + 4.0 +	Tolerance $m_0$ : $\leftarrow 0.05$
tolerance degree : + 4.0	- MEASUREMENT
control lever	- required the state of the sta
position degree : 107.0	Pressure hPa : -
tolerance degree : +- 4.0 +	Rated speed rpm : 700

rack travel mm : 8.70 Tolerance mm : + 0.10 Rated speed rpm : 700 Pressure hPa : 570 rack travel mm : 0.80 Tolerance mm : + 0.15 : 460 Pressure hPa rack travel mm : 0.25 : +- 0.05 Tolerance mm FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa Rated speed rpm : 700 Del. quantity cm3/1000 strokes : 178.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000S. : +- 4.0 BREAKAWAY Rack travel in mm : 8.95 Rated speed rpm : 93U
Tolerance 1/min : + 5 STARTING FUEL DELIVERY Rated speed rpm : 100 rack travel mm : 8.50 Tolerance mm : +-0.50End of test specification sheet

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 16.10.95 Test oil : ISO 4113

Combination No. : 0 401 876 808

Injection pump

Pump designation : PE6P120A320RS3355 EP type number : 0 411 826 814

Governor

Governer design. : RSV300...1100P1A604

Governer no. : 0 421 833 485

Cust. part No. : 3825516 PO2 v. 5/95

Customer-spec. information Customer : PENTA Motor : TD10300

Motor : TD1030ME Power KW : 190.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 1.5 Tolerance bar : +- 0.1

Overflow quantity

min. L/h : 85 Tolerance L/h : + 10.0

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.45 Tolerance mm : + 0.05

test only :  $\leftarrow$  0.10

Rack travel in mm: 9.90 Tolerance mm: + 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300 Tolerance : + 0.30

Check

tolerance "NW :  $\leftarrow$  0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.50 Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 156.0

Tolerance tom3/1000 strokes : +- 1.0	Tolerance cm3/1000 strokes : 7.0
Check tolerance cm3/1000s. : +- 4.0	Check tolerance cm3/1000s. : 11.0
Spreed Tolerance cm3/1000 strokes : 7.0	CONTROL LEVER  control lever
Check tolerance cm3/1000s. : 11.0	position degree : 62.0 tolerance degree : +- 4.0
Rated speed rpm : 300	control lever position degree : 112.0
Rack travel in mm: 4.70 + Tolerance mm: + 0.20 + Del. quantity	tolerance degree : +- 4.0  RATED SPEED
cm3/1000 strokes : 23.0 + Tolerance	rack travel mm : 11.50
cm3/1000 strokes : + 2.5	Rated speed rpm : 1135 Tolerance 1/min : + 5
Spreed Tolerance Tolerance 3.0	rack travel mm : 4.00 Rated speed rpm : 1190 Tolerance 1/min : +- 15
Check tolerance cm3/1000s. : 6.0	rack travel mm : 0.85
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Tolerance mm : +- 0.55 Rated speed rpm : 1300 rack travel mm : 4.00
‡	Rated speed rpm : 1195
GUIDE SLEEVE POSITION	
GUIDE SLEEVE POSITION  Rated speed rpm : 800	Rated speed rpm : 1195  LOW IDLE
Rated speed rpm : 800  Rack travel in mm : 0.85 Tolerance mm : + 0.55	
Rated speed rpm : 800 + Rack travel in mm : 0.85	LOW 1DLE  control lever  position degree : 76.0
Rated speed rpm : 800  Rack travel in mm : 0.85 Tolerance mm : + 0.55  governor spring pre-tension	control lever position degree : 76.0 tolerance degree : +- 4.0  control lever position degree : 26.0
Rated speed rpm : 800  Rack travel in mm : 0.85 Tolerance mm : + 0.55  governor spring pre-tension click setting x : 4.75  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1100 Aneroid pressure	control lever position degree : 76.0 tolerance degree : +- 4.0  control lever position degree : 26.0 tolerance degree : +- 4.0
Rated speed rpm : 800  Rack travel in mm : 0.85 Tolerance mm : + 0.55  governor spring pre-tension click setting x : 4.75  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1100 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 156.0	control lever position degree : 76.0 tolerance degree : +- 4.0  control lever position degree : 26.0 tolerance degree : +- 4.0  Setting point w/out bumper spring  Rated speed rpm : 300 rack travel mm : 4.20  Testing:
Rated speed rpm : 800  Rack travel in mm : 0.85 Tolerance mm : + 0.55  governor spring pre-tension click setting x : 4.75  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1100 Aneroid pressure hPa : 1500 Del. quantity	control lever position degree : 76.0 tolerance degree : +- 4.0  control lever position degree : 26.0 tolerance degree : +- 4.0  Setting point w/out bumper spring  Rated speed rpm : 300 rack travel mm : 4.20

Tolerance 1/min	: 30	Aneroid pressure
TORQUE CONTROL		hPa : - Rated speed rom : 500 Del. quantity
Rated speed rpm	: 1100	+ cm3/1000 strokes : 127.0
rack travel mm Tolerance mm		+ Tolerance + cm3/1000 strokes : +- 1.0
		+ Check tolerance
Rated speed rpm rack travel mm Tolerance mm	: 700 : 12.50 : ← 0.10	cm3/1000s. : + 4.0
		BREAKAWAY
ANEROID/ALTITUDE COMPENSATOR TEST		Rack travel in mm: 11.50 Rated speed rpm: 1135 Tolerance 1/min: + 5
SETTING		1
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 1500	
MEASUREMENT		+ FOM IDTE
Pressure hPa	•	Rated speed rpm : 300 rack travel mm : 4.70
Rated speed rpm	500	+ Tolerance mm : + 0.20
rack travel mm	: 9.55	Del. quantity
Tolerance mm	: +- 0.10	+ cm3/1000 strokes : 23.0 + Tolerance
Rated speed rpm	: 500	+ cm3/1000 strokes : +- 2.5
Pressure hPa	: 555	+ Check tolerance + cm3/1000s. : + 5.0
rack travel mm	2.30	Spreed
Tolerance mm	: <b>←</b> 0.15	Tolerance
Pressure hPa	: 140	t cm3/1000 strokes : 3.0 Check tolerance
rack travel mm	: 0.25	+ cm3/1000s. : 6.0
Tolerance mm	: ← 0.05	†
FUEL DELIVERY CHA	ARACTERISTICS	
Aneroid pressure		End of test specification sheet
hPa	: 1500	+
Rated speed rpm Del. quantity	: 700	<u> </u>
cm3/1000 strokes	: 179.5	<del>-</del>
Tolerance cm3/1000 strokes	: <del>←</del> 3.0	†
Check tolerance cm3/1000s. Spreed	: <del>+</del> 6.0	<b>‡</b>
Tolerance cm3/1000 strokes	: 7.0	
Check tolerance cm3/1000s.	: 11.0	

#### Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 11.10.95 Test oil : ISO 4113

Combination No. : 0 401 876 810

Injection pump

Pump designation : PE6P120A320RS3359 EP type number : 0 411 826 815

Governor

Governer design. : RSV325...1200P1A615 Governer no. : 0 421 833 503

Cust. part No. : 3825515 PO1 v. 5/95

Customer-spec. information Customer : PENTA Motor : TD 730ME Power KW : 150.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp.  $^{\circ}$ C : 40 Tolerance  $^{\circ}$ C : + 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.35
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 9.00Tolerance mm :  $\leftarrow 0.50$ 

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.30 Check

tolerance "NW : + 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 11.10 Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 130.0

Tolerance cm3/1000 strokes : +- 1.0

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Check tolerance cm3/1000s. : + 4.0	
Spreed Tolerance	CONTROL LEVER
cm3/1000 strokes : 7.0	control lever position degree : 68.0
Check tolerance + cm3/1000s. : 11.0 +	tolerance degree : +- 4.0
Rated speed rpm : 325	<pre>control lever position degree : 118.0 tolerance degree : +- 4.0</pre>
Rack travel in mm : 4.40 Tolerance mm : + 0.20	RATED SPEED
Del. quantity cm3/1000 strokes : 30.0	račk třavěl mm : 10.10
Tolerance cm3/1000 strokes : + 2.5	Rated speed rpm : 1235 Tolerance 1/min : +- 5
Check tolerance cm3/1000s. : + 5.0 + Spreed	rack travel mm : 4.00 Rated speed rpm : 1280
Tolerance cm3/1000 strokes : 3.0	Tolerance 1/min : + 15
Check tolerance cm3/1000s. : 6.0	rack travel mm : 0.85 Tolerance mm : + 0.55 Rated speed rpm : 1400
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	LOW IDLE
GUIDE SLEEVE POSITION +	control lever
GUIDE SLEEVE POSITION + Rated speed rpm : 800 +	control lever position degree : 79.0 tolerance degree : + 4.0
Rated speed rpm : 800  Rack travel in mm : 0.85 Tolerance mm : + 0.55	position degree : 79.0
Rated speed rpm : 800  Rack travel in mm : 0.85 Tolerance mm : + 0.55  governor spring pre-tension	position degree : 79.0 tolerance degree : + 4.0 control lever position degree : 29.0
Rated speed rpm : 800  Rack travel in mm : 0.85 Tolerance mm : + 0.55  governor spring pre-tension click setting x : 6.00	position degree : 79.0 tolerance degree : + 4.0 control lever position degree : 29.0 tolerance degree : + 4.0
Rated speed rpm : 800  Rack travel in mm : 0.85 Tolerance mm : + 0.55  governor spring pre-tension click setting x : 6.00  FULL LOAD DELIVERY AT FULL LOAD STOP	position degree : 79.0 tolerance degree : + 4.0  control lever position degree : 29.0 tolerance degree : + 4.0  Setting point w/out bumper spring  Rated speed rpm : 325
Rated speed rpm : 800  Rack travel in mm : 0.85 Tolerance mm : + 0.55  governor spring pre-tension click setting x : 6.00  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1200 Aneroid pressure	position degree : 79.0 tolerance degree : + 4.0  control lever position degree : 29.0 tolerance degree : + 4.0  Setting point w/out bumper spring  Rated speed rpm : 325 rack travel mm : 3.90  Testing:  Rated speed rpm : 325
Rated speed rpm : 800  Rack travel in mm : 0.85 Tolerance mm : + 0.55  governor spring pre-tension click setting x : 6.00  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1200 Aneroid pressure hPa : 1500 Del. quantity	position degree : 79.0 tolerance degree : + 4.0  control lever position degree : 29.0 tolerance degree : + 4.0  Setting point w/out bumper spring  Rated speed rpm : 325 rack travel mm : 3.90  Testing:
Rated speed rpm : 800  Rack travel in mm : 0.85 Tolerance mm : + 0.55  governor spring pre-tension click setting x : 6.00  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1200 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 130.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance	position degree : 79.0 tolerance degree : + 4.0  control lever position degree : 29.0 tolerance degree : + 4.0  Setting point w/out bumper spring  Rated speed rpm : 325 rack travel mm : 3.90  Testing:  Rated speed rpm : 325 rack travel mm : 325 rack travel mm : 34.40
Rated speed rpm : 800  Rack travel in mm : 0.85 Tolerance mm : + 0.55  governor spring pre-tension click setting x : 6.00  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1200 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 130.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed	position degree : 79.0 tolerance degree : + 4.0  control lever position degree : 29.0 tolerance degree : + 4.0  Setting point w/out bumper spring  Rated speed rpm : 325 rack travel mm : 3.90  Testing:  Rated speed rpm : 325 rack travel mm : 4.40 Tolerance mm : + 0.10  rack travel mm : 2.00 Rated speed rpm : 390 Tolerance 1/min : + 30
Rated speed rpm : 800  Rack travel in mm : 0.85 Tolerance mm : + 0.55  governor spring pre-tension click setting x : 6.00  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1200 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 130.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0	position degree : 79.0 tolerance degree : + 4.0  control lever position degree : 29.0 tolerance degree : + 4.0  Setting point w/out bumper spring  Rated speed rpm : 325 rack travel mm : 3.90  Testing:  Rated speed rpm : 325 rack travel mm : 4.40 Tolerance mm : + 0.10  rack travel mm : 2.00 Rated speed rpm : 390

Tolerance mm : +- 0.05 Rated speed rpm 700 rack travel mm 11.10 Tolerance mm : +- 0.10ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed com 500 1500 Pressure hPa 11.00 rack travel mm Tolerance mm : +- 0.05 **MEASUREMENT** Pressure hPa 500 Rated speed rpm 8.80 rack travel mm 0.10 Tolerance mm Rated speed rpm 500 770 Pressure hPa . rack travel mm 1.85 : +- 0.15 Tolerance mm 390 Pressure hPa 0.25 rack travel mm : +- 0.05 Tolerance mm FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa 1500 700 Rated speed rpm Del. quantity cm3/1000 strokes : 150.0 Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s. 6.0 : +--Spreed Tolerance cm3/1000 strokes : 7.0 Check tolerance cm3/1000s. 11.0 Aneroid pressure hPa 500 Rated speed rpm

89.0

Tolerance cm3/1000 strokes : +-1.0 Check tolerance cm3/1000s. 4.0

### BREAKAWAY

Rack travel in mm : 10.10 Rated speed rpm : 1235 Tolerance 1/min

### LOW IDLE

325 Rated speed rpm 4.40 rack travel mm : +-0.20 Tolerance mm Del. quantity cm3/1000 strokes : 30.0 Tolerance cm3/1000 strokes 2.5 Check tolerance cm3/1000s. 5.0 : +-Spreed Tolerance 3.0 cm3/1000 strokes : Check tolerance cm3/1000S. 6.0

End of test specification sheet

Del. quantity cm3/1000 strokes :

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 16.10.95 Test oil : ISO 4113

Combination No. : 0 402 046 801

Injection pump

Pump designation : PES6P110A720RS3104 EP type number : 0 412 016 712

Governor

Governer design. : RQV300...1150PA850

: -2

Governer no. : 0 421 813 718

Cust. part No. :

Customer-spec. information Customer : KHD

Motor : BF6L513RC Power KW : 231.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 2.85
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 6-2-4-1-5-

: 3

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.30

Check

tolerance \*NW : + 0.50

Start of delivery mark

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 14.45

Tolerance mm : + 0.85

Del. quantity

cm3/1000 strokes : 173.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance cm3/1000s.	: +- 4.0	Rated speed rpm : 1190
Spreed Tolerance cm3/1000 strokes	: 4.0	Rack travel in mm : 16.50 Tolerance mm : +- 1.30
Check tolerance cm3/1000S.	: 7.5	FULL LOAD DELIVERY AT FULL LOAD
Rated speed rpm	: 300	Rated speed rpm : 1150 Aneroid pressure
Dool Association	7 60	hPa : 900
Rack travel in mm Tolerance mm		Del. quantity cm3/1000 strokes : 173.0
Del. quantity	1	Tolerance
cm3/1000 strokes	: 19.0	cm3/1000 strokes : +- 1.0
Tolerance	+	Check tolerance
cm3/1000 strokes	: + 2.5	$cm3/1000s.$ : $\leftarrow$ 4.0
Check tolerance	†	Spreed
cm3/1000s.	: ← 5.0 +	Tolerance cm3/1000 strokes : 4.0
Spreed Tolerance	Ī	cm3/1000 strokes : 4.0 Check tolerance
cm3/1000 strokes	: 4.5	cm3/1000s. : 7.5
Check tolerance		
cm3/1000s.	: 7.5	
(B) SETTING OF IN. WITH GOVERNOR	JECTION PUMP	control Lever  control lever  position degree : 56.0  tolerance degree : +- 4.0
GUIDE SLEEVE TRAVE	EL I	control lever
Rated speed rom guide sleeve	+	position degree : 122.0 tolerance degree : + 4.0
travel mm Tolerance mm	: 1.30 + : + 0.10 +	DATEN SDEEN
toterance mm	: - 0.10	RATED SPEED
Rated speed rpm	: 1195	rack travel mm : 13.40
guide sleeve	+	Rated speed rpm : 1195
travel mm	: 8.50	Tolerance $1/\min$ : $\leftarrow$ 5
Tolerance mm	: ← 0.10 +	rack travel mm : 4.00
Rated speed rpm	: 350	rack travel mm : 4.00 Rated speed rpm : 1320
guide sleeve		Tolerance 1/min : +- 15
travel mm	: 2.20	
Tolerance mm	: ← 0.30 +	rack travel mm : 0.50
	<b>†</b>	Tolerance mm : +- 0.50
Rated speed rpm	: 650	Rated speed rpm : 1450
guide sleeve	: 4.50	
travel mm Tolerance mm	÷ + 0.30	
· · · · · · · · · · · · · · · · · · ·	<b>+</b>	LOW IDLE
Rated speed rpm	: 1320	
guide sleeve	+	
travel mm Tolerance mm	9.90	control lever
loterance mm	: + 0.20	position degree : 86.0 tolerance degree : + 4.0
GUIDE SLEEVE POSIT	TION	

STOP

		+ Tolerance mm	: +- 0.05
control lever		+	
position degree	: 20.0	+	
tolerance degree	: +- 4.0	+ START CUT-OUT	
		+	
Testing:		+ Rated speed rpm	: < 220
		+ Check	
Rated speed rpm rack travel mm	: 300	+ speed 1/min	: < 240
rack travel mm	: 7.80	+	
rack travel mm Tolerance mm	: ← 0.10		
		+ FUEL DELIVERY CHA	ARACTERISTICS
Rated speed rpm	: 100	+	
		+ Aneroid pressure	
CRT mm min.	: > 9.30	hPa Rated speed rom	: 900
		+ Rated speed rpm	: 700
Rated speed rpm	: 395	+ Del. quantity	
		+ cm3/1000 strokes	: 178.0
		- + Tolerance	
TORQUE CONTROL		+ cm3/1000 strokes	: +- 2.0
		+ Check tolerance	
Dimension a mm	: 0.20	- cm3/1000s.	
Rated speed rom	: 1150	+	
rack travel mm Tolerance mm	: 14.45	- Aneroid pressure	
Tolerance mm	: +- 0.05	+ hPa	:
		+ Rated speed rpm	: 450
Rated speed rpm	: 700	+ Del. quantity	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
rack travel mm	: 14.70	+ cm3/1000 strokes	: 124.0
Tolerance mm	: + 0.10	Tolerance	
1,000		+ cm3/1000 strokes	: +- 1.0
Rated speed rpm	: 950	- Check tolerance	
rack travel mm Tolerance mm	: 14.55	+ cm3/1000s.	: +- 4.0
Tolerance mm	· +- 0.05	CIIID 7 10000	****
rocci di reci ilan			
		- BREAKAWAY	
ANEROID/ALTITUDE		DOLLARONA	
COMPENSATOR TEST		1	
CONTENTATION TEST		+ Rack travel in mm	• 13.40
		Rated speed rpm	
SETTING		+ Tolerance 1/min	
OET : ING		1 Sociation Significant	• • •
Rated speed rpm	: 450	I	
Pressure hPa	: 450 : 900		
rack travel mm	: 14.70	T STARTING FUEL DEL	IVERY
Tolerance mm	: + 0.10	T STAKITING TOEL DEL	TATEL
roterance and		Rated speed rpm	: 100
MEASUREMENT		+ Del. quantity	. 100
MEASOREMENT		+ cm3/1000 strokes	: 185.0
Pressure hPa	•	Tolerance	. 105.0
Rated speed rpm	450	cm3/1000 strokes	: +- 15.0
rack travel mm	: 12.40	Check tolerance	15.0
Tolerance mm	: + 0.10	cm3/1000s.	: + 19.0
roterance mm		i cho/:0003.	. 4 19.0
Poted coord now	: 450	T	
Rated speed rpm	: 450	I	
Procesing has	• 700	T	
Pressure hPa	: 390	LOW THE	
rack travel mm	: 13.00	+ LOW IDLE	
Tolerance mm	: + 0.10	Dated aread are	• 300
Danamana hou	. 570	Rated speed rpm	300
Pressure hPa	: 530	+ rack travel mm	7.80
rack travel mm	: 14.05	+ Tolerance mm	: + 0.20

L02

Del. quantity		
cm3/1000 strokes	:	19.0
Tolerance		
cm3/1000 strokes	: +	2.5
Check tolerance		
cm3/1000s.	: +	5.0
Spreed		
Tolerance		
cm3/1000 strokes	:	4.5
Check tolerance		
cm3/1000s.	:	7.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 05.09.95 Edition Test oil : ISO 4113

Combination No. : 0 402 640 817

Injection pump

Pump designation : PE12P120A520LS7826 EP type number : 0 412 620 817

Governor

Governer design. : RQV350...1150PA870

: -4

: 0 421 813 717 Governer no.

Cust. part No. :

Customer-spec. information Customer : MB-NFZ : OM 444 LA Motor Power KW : 736.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance \*C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Overflow quantity

min. L/h : 160 Tolerance L/h : +- 10.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 bar Tolerance bar : + 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 4.45 Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm: 20.00 Tolerance mm : + 1.00

Firing order

: 12- 1- 5- 9- 8 : - 3- 4- 11- 10 : - 2- 6- 7

Phasing : 0-45-60-105-120

: -165-180-225-240

: -285-300-345

Tolerance : ← 0.30

Check

tolerance "NW : + 0.50

Start of delivery mark

Barrel no. : 12

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm: 15.15

Tolerance mm: +-0.05

Del. quantity

cm3/1000 strokes : 301.0

Tolerance	1.0	+ Tolerance mm : + 0.25
cm3/1000 strokes	: +- 1.0	GUIDE SLEEVE POSITION
Check tolerance cm3/1000s.	: + 4.0	Rated speed rpm : 1275
Spreed Tolerance cm3/1000 strokes	: 6.0	Rack travel in mm: 16.50 Tolerance mm: + 1.30
Check tolerance cm3/1000s.	: 10.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Rated speed rpm	: 350	Rated speed rpm : 1150 Aneroid pressure hPa : 1800
Rack travel in mm Tolerance mm	: 5.60 : + 0.30	Del. quantity cm3/1000 strokes : 301.0
Del. quantity cm3/1000 strokes Tolerance	: 15.0	Tolerance + cm3/1000 strokes : + 1.0 + Check tolerance
cm3/1000 strokes Check tolerance		+ cm3/1000s. : ← 4.0 + Spreed
cm3/1000S. Spreed Tolerance	: +- 6.0	+ Tolerance + cm3/1000 strokes : 6.0 + Check tolerance
cm3/1000 strokes Check tolerance		cm3/1000s. : 10.0
cm3/1000s.	: 12.0	
		+ CONTROL LEVER
(B) SETTING OF IN- WITH GOVERNOR	JECTION PUMP	control lever position degree : 117.0
		control lever position degree : 117.0 tolerance degree : + 4.0
GUIDE SLEEVE TRAVI	EL: 350	control lever position degree : 117.0 tolerance degree : + 4.0  RATED SPEED rack travel mm : 14.20
GUIDE SLEEVE TRAVI		control lever position degree : 117.0 tolerance degree : + 4.0  RATED SPEED
GUIDE SLEEVE TRAVI Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	: 350 : 1.55 : + 0.20 : 1206	control lever position degree : 117.0 tolerance degree : + 4.0  RATED SPEED  rack travel mm : 14.20 Rated speed rpm : 1195 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1285
GUIDE SLEEVE TRAVI Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm	: 350 : 1.55 : + 0.20	control lever position degree : 117.0 tolerance degree : + 4.0  RATED SPEED  rack travel mm : 14.20 Rated speed rpm : 1195 Tolerance 1/min : + 5  rack travel mm : 4.00
GUIDE SLEEVE TRAVI Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 350 : 1.55 : + 0.20 : 1206 : 8.15 : + 0.15 : 600	control lever position degree : 117.0 tolerance degree : + 4.0  RATED SPEED  rack travel mm : 14.20 Rated speed rpm : 1195 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1285 Tolerance 1/min : + 15
GUIDE SLEEVE TRAVI Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Tolerance mm	: 350 : 1.55 : + 0.20 : 1206 : 8.15 : + 0.15	control lever position degree : 117.0 tolerance degree : + 4.0  RATED SPEED  rack travel mm : 14.20 Rated speed rpm : 1195 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1285 Tolerance 1/min : + 15  rack travel mm : 0.50 Tolerance mm : + 0.50
GUIDE SLEEVE TRAVI Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	: 350 : 1.55 : + 0.20 : 1206 : 8.15 : + 0.15 : 600 : 3.55 : + 0.25 : 960	control lever position degree : 117.0 tolerance degree : + 4.0  RATED SPEED  rack travel mm : 14.20 Rated speed rpm : 1195 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1285 Tolerance 1/min : + 15  rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1350  Rated speed rpm : 753 Tolerance 1/min : + 3
GUIDE SLEEVE TRAVI Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 350 : 1.55 : + 0.20 : 1206 : 8.15 : + 0.15 : 600 : 3.55 : + 0.25	control lever position degree : 117.0 tolerance degree : + 4.0  RATED SPEED  rack travel mm : 14.20 Rated speed rpm : 1195 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1285 Tolerance 1/min : + 15  rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1350  Rated speed rpm : 753 Tolerance 1/min : + 3
GUIDE SLEEVE TRAVI Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm	: 350 : 1.55 : + 0.20 : 1206 : 8.15 : + 0.15 : 600 : 3.55 : + 0.25 : 960 : 5.55	control lever position degree : 117.0 tolerance degree : + 4.0  RATED SPEED  rack travel mm : 14.20 Rated speed rpm : 1195 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1285 Tolerance 1/min : + 15  rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1350  Rated speed rpm : 753 Tolerance 1/min : + 3 rack travel mm : 10.80

rack travel mm Tolerance mm		<u> </u>
Rated speed rpm		TORQUE CONTROL
rack travel mm	: 10.80	Rated speed rpm : 1150 rack travel mm : 15.15
rack travel mm	: 4.00	Tolerance mm : +- 0.05
rack travel mm Tolerance mm	: 0.50 : +- 0.50	Rated speed rpm : 750 + rack travel mm : 15.25 + Tolerance mm : + 0.10
rack travel mm	: 10.80	
rack travel mm	: 4.00	ANEROID/ALTITUDE COMPENSATOR TEST
rack travel mm Tolerance mm	: 0.50 : ← 0.50	
rack travel mm	: 10.80	MEASUREMENT
rack travel mm		Pressure hPa : - Rated speed rpm : 500
rack travel mm Tolerance mm	: 0.50 : + 0.50	Pressure hPa : 400 rack travel mm : 1.75
rack travel mm	: 10.80	Tolerance mm : + 0.05
rack travel mm	: 4.00	Pressure hPa : 1050 rack travel mm : 5.90
rack travel mm Tolerance mm		Tolerance mm : + 0.10
rack travel mm	: 10.80	START CUT-OUT
rack travel mm	: 4.00	Rated speed rpm : < 310 Check
rack travel mm Tolerance mm		speed 1/min : < 330
LOW IDLE		† FUEL DELIVERY CHARACTERISTICS
		+ Aneroid pressure + hPa : 1800
control lever position degree tolerance degree		Rated speed rpm : 750 Del. quantity cm3/1000 strokes : 306.0
Testing:	7.0	Tolerance + cm3/1000 strokes : + 5.0
Rated speed rpm	: 350	Check tolerance cm3/1000s. : + 8.0
rack travel mm Tolerance mm	: 5.60 : ← 0.10	+ Spreed + Tolerance
Rated speed rpm	: 250	+ cm3/1000 strokes : 10.0 Check tolerance
CRT mm min.	: > 7.30	+ cm3/1000s. : 15.0
Rated speed rpm	: 475	Aneroid pressure hPa : 1800 Rated speed rpm : 1150

Del. quantity		
cm3/1000 strokes	: 234.5	
Tolerance		
cm3/1000 strokes	: <del>←</del> 1.5	
Check tolerance	. , , ,	
cm3/1000s.	: +- 4.5	
Spreed Tolerance		
cm3/1000 strokes	: 10.0	
Check tolerance	. 10.0	
cm3/1000s.	: 15.0	
0.100001	,,,,,	
Aneroid pressure		
hPa	•	
Rated speed rpm	: 500	
Del. quantity	40. 0	
cm3/1000 strokes	: 124.0	
Tolerance	4 4 0	
cm3/1000 strokes	: <del>+</del> 1.0	
Check tolerance cm3/1000s.	: +- 4.0	
Spreed	• T • 4•U	
Tolerance		
cm3/1000 strokes	: 10.0	
Check tolerance		
	: 15.0	
EREAKAWAY		
cm3/1000s.	: 14.20 : 1195	
em3/1000s.  BREAKAWAY  Rack travel in mm Rated speed rpm	: 14.20 : 1195 : +- 5	
cm3/1000s.  BREAKAWAY  Rack travel in mm Rated speed rpm Tolerance 1/min  STARTING FUEL DEL	: 14.20 : 1195 : +- 5	
cm3/1000s.  BREAKAWAY  Rack travel in mm Rated speed rpm Tolerance 1/min  STARTING FUEL DEL Rated speed rpm	: 14.20 : 1195 : +- 5	
cm3/1000s.  BREAKAWAY  Rack travel in mm Rated speed rpm Tolerance 1/min  STARTING FUEL DEL  Rated speed rpm Del. quantity	14.20 : 1195 : + 5 IVERY : 100	
cm3/1000s.  BREAKAWAY  Rack travel in mm Rated speed rpm Tolerance 1/min  STARTING FUEL DEL Rated speed rpm	14.20 : 1195 : + 5 IVERY : 100	
cm3/1000s.  BREAKAWAY  Rack travel in mm Rated speed rpm Tolerance 1/min  STARTING FUEL DEL  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	14.20 : 1195 : +- 5 IVERY : 100 : 331.0	
Rack travel in mm Rated speed rpm Tolerance 1/min  STARTING FUEL DEL Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	IVERY : 100 : 331.0 : +- 10.0	
cm3/1000s.  BREAKAWAY  Rack travel in mm Rated speed rpm Tolerance 1/min  STARTING FUEL DEL  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	14.20 : 1195 : +- 5 IVERY : 100 : 331.0	
Cm3/1000S.  BREAKAWAY  Rack travel in mm Rated speed rpm Tolerance 1/min  STARTING FUEL DEL  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000S.	IVERY : 100 : 331.0 : +- 10.0	
Rack travel in mm Rated speed rpm Tolerance 1/min  STARTING FUEL DEL Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	IVERY : 100 : 331.0 : +- 10.0	
Cm3/1000S.  BREAKAWAY  Rack travel in mm Rated speed rpm Tolerance 1/min  STARTING FUEL DEL  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000S.	: 14.20 : 1195 : +- 5 IVERY : 100 : 331.0 : +- 10.0 : +- 14.0	
Cm3/1000S.  BREAKAWAY  Rack travel in mm Rated speed rpm Tolerance 1/min  STARTING FUEL DEL  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000S.	: 14.20 : 1195 : +- 5 IVERY : 100 : 331.0 : +- 10.0 : +- 14.0	
BREAKAWAY  Rack travel in mm Rated speed rpm Tolerance 1/min  STARTING FUEL DEL  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  LOW IDLE  Rated speed rpm rack travel mm Tolerance mm	: 14.20 : 1195 : +- 5 IVERY : 100 : 331.0 : +- 10.0 : +- 14.0	
BREAKAWAY  Rack travel in mm Rated speed rpm Tolerance 1/min  STARTING FUEL DEL  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  LOW IDLE  Rated speed rpm rack travel mm Tolerance mm Del. quantity	IVERY : 100 : 331.0 : + 10.0 : + 14.0  : 350 : + 0.30	
BREAKAWAY  Rack travel in mm Rated speed rpm Tolerance 1/min  STARTING FUEL DEL  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  LOW IDLE  Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes	IVERY : 100 : 331.0 : + 10.0 : + 14.0  : 350 : + 0.30	
Rack travel in mm Rated speed rpm Tolerance 1/min  STARTING FUEL DEL Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  LOW IDLE Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance mm Del. quantity cm3/1000 strokes Tolerance mm	: 14.20 : 1195 : + 5 IVERY : 100 : 331.0 : + 10.0 : + 14.0 : + 14.0 : 5.60 : + 0.30 : 15.0	
BREAKAWAY  Rack travel in mm Rated speed rpm Tolerance 1/min  STARTING FUEL DEL  Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  LOW IDLE  Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes	IVERY : 100 : 331.0 : + 10.0 : + 14.0  : 350 : + 0.30	

Check tolerance cm3/1000s. : +- 6.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 12.10.95 Test oil : ISO 4113

Combination No. : 0 402 640 842

Injection pump

Pump designation : PE12P12OA520/5RS7304

EP type number : 0 412 620 838

Governor

Governer design. : RQV300...550/1050PA1

: 093

Governer no. : 0 421 814 067

Cust. part No. :

Customer—spec. information

Customer : MWM

Motor : TBD234-FAUN

## TEST BENCH REQUIREMENTS

Inlet line : 3.1,3.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Overflow quantity

min. L/h : 170 Tolerance L/h : + 10.0

Test nozzle holde

assembly : 1 688 901 019

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.20
Tolerance mm : + 0.05

test only :  $\leftarrow$  0.10

Rack travel in mm : 19.50 Tolerance mm : + 1.50

Firing order : 1-2-9-10-5-6

: - 11- 12- 3- 4 : - 7- 8

Phasing : 0-30-60-90-120-150

: -180-210-240-270 : -300-330

Tolerance :  $\leftarrow$  0.30

Check

tolerance "NW : +- 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 13.60 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 235.0

Tolerance

cm3/1000 strokes : +- 1.0

L08

	+ guide sleeve
Check tolerance	+ travel mm : 6.00
cm3/1000s. : $+-$ 4.0	+ Tolerance mm : + 0.25
	†
Spreed	+ Rated speed rpm : 1260
Tolerance	+ guide sleeve
cm3/1000 strokes : 6.0	+ travel mm : 11.50
Al. al la la la la la la la la la la la la	+ Tolerance mm : + 0.50
Check tolerance	†
cm3/1000s. : 9.0	CHINE CLEENE DOCTITION
Rated speed rpm : 300	GUIDE SLEEVE POSITION
Rated speed rpm : 300	Rated speed rpm : 1160
Rack travel in mm : 6.75	T water speed ibin . 1100
Tolerance mm : +- 0.20	Rack travel in mm: 12.60
Del. quantity	+ Tolerance mm : +- 2.00
cm3/1000 strokes : 38.0	1
Tolerance	
cm3/1000 strokes : + 5.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance	+
cm3/1000s. : +- 8.0	+ Rated speed rpm : 1050
Spreed	+ Aneroid pressure
Tolerance	+ hPa : 1250
cm3/1000 strokes : 8.0	+ Del. quantity
Check tolerance	+ cm3/1000 strokes : 235.0
cm3/1000s. : 12.0	+ Tolerance
	+ cm3/1000 strokes : + 1.0
	+ Check tolerance
(B) SETTING OF INJECTION PUMP	+ cm3/1000s. : $+$ 4.0
WITH GOVERNOR	+ Spreed
WELL GOVERNOON	
WITT GOVERNOR	+ Tolerance
	+ Tolerance + cm3/1000 strokes : 6.0
GUIDE SLEEVE TRAVEL	+ Tolerance + cm3/1000 strokes : 6.0 + Check tolerance
	Tolerance cm3/1000 strokes: 6.0 Check tolerance
GUIDE SLEEVE TRAVEL	+ Tolerance + cm3/1000 strokes : 6.0 + Check tolerance
GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 guide sleeve travel mm : 1.30	+ Tolerance + cm3/1000 strokes : 6.0 + Check tolerance
GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 guide sleeve	+ Tolerance + cm3/1000 strokes : 6.0 + Check tolerance
GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 guide sleeve travel mm : 1.30 Tolerance mm : + 0.25	Tolerance cm3/1000 strokes: 6.0 Check tolerance cm3/1000S.: 9.0  CONTROL LEVER
GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 guide sleeve travel mm : 1.30 Tolerance mm : + 0.25  Rated speed rpm : 1107	Tolerance cm3/1000 strokes: 6.0 Check tolerance cm3/1000S.: 9.0  CONTROL LEVER control lever
GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 guide sleeve travel mm : 1.30 Tolerance mm : + 0.25  Rated speed rpm : 1107 guide sleeve	Tolerance cm3/1000 strokes: 6.0 Check tolerance cm3/1000s.: 9.0  CONTROL LEVER  control lever position degree: 51.0
GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 guide sleeve travel mm : 1.30 Tolerance mm : + 0.25  Rated speed rpm : 1107 guide sleeve travel mm : 6.75	Tolerance cm3/1000 strokes: 6.0 Check tolerance cm3/1000S.: 9.0  CONTROL LEVER control lever
GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 guide sleeve travel mm : 1.30 Tolerance mm : + 0.25  Rated speed rpm : 1107 guide sleeve	Tolerance cm3/1000 strokes: 6.0 Check tolerance cm3/1000s.: 9.0  CONTROL LEVER  control lever position degree: 51.0 tolerance degree: +- 4.0
GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 guide sleeve travel mm : 1.30 Tolerance mm : + 0.25  Rated speed rpm : 1107 guide sleeve travel mm : 6.75 Tolerance mm : + 0.25	Tolerance cm3/1000 strokes: 6.0 Check tolerance cm3/1000s.: 9.0  CONTROL LEVER  control lever position degree: 51.0 tolerance degree: +- 4.0  control lever
GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 guide sleeve travel mm : 1.30 Tolerance mm : + 0.25  Rated speed rpm : 1107 guide sleeve travel mm : 6.75 Tolerance mm : + 0.25  Rated speed rpm : 1050	Tolerance cm3/1000 strokes: 6.0 Check tolerance cm3/1000s.: 9.0  CONTROL LEVER  control lever position degree: 51.0 tolerance degree: +- 4.0  control lever position degree: 115.0
GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 guide sleeve travel mm : 1.30 Tolerance mm : + 0.25  Rated speed rpm : 1107 guide sleeve travel mm : 6.75 Tolerance mm : + 0.25  Rated speed rpm : 1050 guide sleeve	Tolerance cm3/1000 strokes: 6.0 Check tolerance cm3/1000s.: 9.0  CONTROL LEVER  control lever position degree: 51.0 tolerance degree: +- 4.0  control lever
GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 guide sleeve travel mm : 1.30 Tolerance mm : + 0.25  Rated speed rpm : 1107 guide sleeve travel mm : 6.75 Tolerance mm : + 0.25  Rated speed rpm : 1050 guide sleeve travel mm : 6.00	Tolerance cm3/1000 strokes: 6.0 Check tolerance cm3/1000s.: 9.0  CONTROL LEVER  control lever position degree: 51.0 tolerance degree: +- 4.0  control lever position degree: 115.0 tolerance degree: +- 4.0
GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 guide sleeve travel mm : 1.30 Tolerance mm : + 0.25  Rated speed rpm : 1107 guide sleeve travel mm : 6.75 Tolerance mm : + 0.25  Rated speed rpm : 1050 guide sleeve	Tolerance cm3/1000 strokes: 6.0 Check tolerance cm3/1000s.: 9.0  CONTROL LEVER  control lever position degree: 51.0 tolerance degree: +- 4.0  control lever position degree: 115.0
GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 guide steeve travel mm : 1.30 Tolerance mm : + 0.25  Rated speed rpm : 1107 guide steeve travel mm : 6.75 Tolerance mm : + 0.25  Rated speed rpm : 1050 guide steeve travel mm : 6.00 Tolerance mm : + 0.25	Tolerance cm3/1000 strokes: 6.0 Check tolerance cm3/1000S. 9.0  CONTROL LEVER  control lever position degree: 51.0 tolerance degree: +- 4.0  control lever position degree: 115.0 tolerance degree: +- 4.0  RATED SPEED
GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 guide steeve travel mm : 1.30 Tolerance mm : + 0.25  Rated speed rpm : 1107 guide steeve travel mm : 6.75 Tolerance mm : + 0.25  Rated speed rpm : 1050 guide steeve travel mm : 6.00 Tolerance mm : + 0.25  Rated speed rpm : 586	Tolerance cm3/1000 strokes: 6.0 Check tolerance cm3/1000s.: 9.0  CONTROL LEVER  control lever position degree: 51.0 tolerance degree: +- 4.0  control lever position degree: 115.0 tolerance degree: +- 4.0  RATED SPEED  rack travel mm: 13.70
GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 guide steeve travel mm : 1.30 Tolerance mm : + 0.25  Rated speed rpm : 1107 guide steeve travel mm : 6.75 Tolerance mm : + 0.25  Rated speed rpm : 1050 guide steeve travel mm : 6.00 Tolerance mm : + 0.25	Tolerance cm3/1000 strokes: 6.0 Check tolerance cm3/1000S. 9.0  CONTROL LEVER  control lever position degree: 51.0 tolerance degree: +- 4.0  control lever position degree: 115.0 tolerance degree: +- 4.0  RATED SPEED
GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 guide steeve travel mm : 1.30 Tolerance mm : + 0.25  Rated speed rpm : 1107 guide steeve travel mm : 6.75 Tolerance mm : + 0.25  Rated speed rpm : 1050 guide steeve travel mm : 6.00 Tolerance mm : + 0.25  Rated speed rpm : 586 guide steeve	Tolerance cm3/1000 strokes: 6.0 Check tolerance cm3/1000s.: 9.0  CONTROL LEVER  control lever position degree: 51.0 tolerance degree: +- 4.0  control lever position degree: 115.0 tolerance degree: +- 4.0  RATED SPEED  rack travel mm: 13.70 Rated speed rpm: 1095
GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 guide steeve travel mm : 1.30 Tolerance mm : + 0.25  Rated speed rpm : 1107 guide steeve travel mm : 6.75 Tolerance mm : + 0.25  Rated speed rpm : 1050 guide steeve travel mm : 6.00 Tolerance mm : + 0.25  Rated speed rpm : 586 guide steeve travel mm : 5.55	Tolerance cm3/1000 strokes: 6.0 Check tolerance cm3/1000s.: 9.0  CONTROL LEVER  control lever position degree: 51.0 tolerance degree: +- 4.0  control lever position degree: 115.0 tolerance degree: +- 4.0  RATED SPEED  rack travel mm: 13.70 Rated speed rpm: 1095 Tolerance 1/min: +- 5  rack travel mm: 4.00
GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 guide steeve travel mm : 1.30 Tolerance mm : + 0.25  Rated speed rpm : 1107 guide steeve travel mm : 6.75 Tolerance mm : + 0.25  Rated speed rpm : 1050 guide steeve travel mm : 6.00 Tolerance mm : + 0.25  Rated speed rpm : 586 guide steeve travel mm : 5.55	Tolerance cm3/1000 strokes: 6.0 Check tolerance cm3/1000s. 9.0  CONTROL LEVER  control lever position degree: 51.0 tolerance degree: +- 4.0  control lever position degree: 115.0 tolerance degree: +- 4.0  RATED SPEED  rack travel mm: 13.70 Rated speed rpm: 1095 Tolerance 1/min: +- 5  rack travel mm: 4.00 Rated speed rpm: 1155
GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 guide sleeve travel mm : 1.30 Tolerance mm : + 0.25  Rated speed rpm : 1107 guide sleeve travel mm : 6.75 Tolerance mm : + 0.25  Rated speed rpm : 1050 guide sleeve travel mm : 6.00 Tolerance mm : + 0.25  Rated speed rpm : 586 guide sleeve travel mm : 5.55 Tolerance mm : + 0.25  Rated speed rpm : 586 guide sleeve travel mm : 5.55 Tolerance mm : + 0.25	Tolerance cm3/1000 strokes: 6.0 Check tolerance cm3/1000s. 9.0  CONTROL LEVER  control lever position degree: 51.0 tolerance degree: +- 4.0  control lever position degree: 115.0 tolerance degree: +- 4.0  RATED SPEED  rack travel mm: 13.70 Rated speed rpm: 1095 Tolerance 1/min: +- 5  rack travel mm: 4.00
GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 guide sleeve travel mm : 1.30 Tolerance mm : + 0.25  Rated speed rpm : 1107 guide sleeve travel mm : 6.75 Tolerance mm : + 0.25  Rated speed rpm : 1050 guide sleeve travel mm : 6.00 Tolerance mm : + 0.25  Rated speed rpm : 586 guide sleeve travel mm : 5.55 Tolerance mm : + 0.25  Rated speed rpm : 586 guide sleeve travel mm : 5.55 Tolerance mm : + 0.25  Rated speed rpm : 636 guide sleeve travel mm : 6.00	Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  CONTROL LEVER  control lever position degree : 51.0 tolerance degree : +- 4.0  control lever position degree : 115.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : 13.70 Rated speed rpm : 1095 Tolerance 1/min : +- 5  rack travel mm : 4.00 Rated speed rpm : 1155 Tolerance 1/min : +- 15
GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 guide sleeve travel mm : 1.30 Tolerance mm : + 0.25  Rated speed rpm : 1107 guide sleeve travel mm : 6.75 Tolerance mm : + 0.25  Rated speed rpm : 1050 guide sleeve travel mm : 6.00 Tolerance mm : + 0.25  Rated speed rpm : 586 guide sleeve travel mm : 5.55 Tolerance mm : + 0.25  Rated speed rpm : 586 guide sleeve travel mm : 5.55 Tolerance mm : + 0.25	Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  CONTROL LEVER  control lever position degree : 51.0 tolerance degree : +- 4.0  control lever position degree : 115.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : 13.70 Rated speed rpm : 1095 Tolerance 1/min : +- 5  rack travel mm : 4.00 Rated speed rpm : 1155 Tolerance 1/min : +- 15  rack travel mm : 0.50
GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 guide sleeve travel mm : 1.30 Tolerance mm : + 0.25  Rated speed rpm : 1107 guide sleeve travel mm : 6.75 Tolerance mm : + 0.25  Rated speed rpm : 1050 guide sleeve travel mm : 6.00 Tolerance mm : + 0.25  Rated speed rpm : 586 guide sleeve travel mm : 5.55 Tolerance mm : + 0.25  Rated speed rpm : 586 guide sleeve travel mm : 5.55 Tolerance mm : + 0.25  Rated speed rpm : 636 guide sleeve travel mm : 6.00	Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  CONTROL LEVER  control lever position degree : 51.0 tolerance degree : +- 4.0  control lever position degree : 115.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : 13.70 Rated speed rpm : 1095 Tolerance 1/min : +- 5  rack travel mm : 4.00 Rated speed rpm : 1155 Tolerance 1/min : +- 15

		+ Rated speed rom : 500
LOW IDLE		Pressure hPa : 225 rack travel mm : 10.70 Tolerance mm : +- 0.25
control lever position degree tolerance degree		Pressure hPa : 595 rack travel mm : 12.20 Tolerance mm : +- 0.05
control lever position degree tolerance degree	: 20.0 : + 4.0	Pressure hPa : 1250 rack travel mm : 13.60 Tolerance mm : +- 0.05
Testing:		Pressure hPa : 1450
Rated speed rpm rack travel mm Tolerance mm	: 300 : 6.75 : + 0.10	rack travel mm : 13.95 Tolerance mm : +- 0.25
		START CUT-OUT
Rated speed rpm CRT mm min.		Rated speed rpm : < 220 Check
Rated speed rpm		speed 1/min : < 240
TOPOUT CONTROL	4	FUEL DELIVERY CHARACTERISTICS
TORQUE CONTROL		Aneroid pressure
Rated speed rpm rack travel mm Tolerance mm	: 13.60	+ hPa : 1250 + Rated speed rpm : 800 + Del. quantity
Rated speed rpm rack travel mm	: 800 · 13.50	cm3/1000 strokes : 234.0 + Tolerance + cm3/1000 strokes : + 3.0
Tolerance mm	: + 0.05	+ Check tolerance + cm3/1000s. : +- 6.0
Rated speed rpm rack travel mm Tolerance mm	: 14.70	Aneroid pressure hPa : - Rated speed rpm : 500
ANEROID/ALTITUDE COMPENSATOR TEST		Del. quantity cm3/1000 strokes : 144.0 Tolerance
SETTING		
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 2000 : 14.70 : ← 0.05	BREAKAWAY
MEASUREMENT	0.05	Rack travel in mm : 13.70 Rated speed rpm : 1095
Pressure hPa Rated speed rpm rack travel mm	: 10.00	Tolerance 1/min : +- 5
Tolerance mm	: + 0.20	+ STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : + 0.50
Det. quantity
cm3/1000 strokes : 274.0
Tolerance
cm3/1000 strokes : + 10.0
Check tolerance
cm3/1000s. : + 14.0

# LOW IDLE

Rated speed rpm : 300 rack travel mm : 6.75 Toterance mm : + 0.20 Del. quantity cm3/1000 strokes : 38.0 Tolerance cm3/1000 strokes : +-5.0 Check tolerance cm3/1000s. 8.0 Spreed Tolerance 8.0 cm3/1000 strokes : Check tolerance cm3/1000s. 12.0

### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 09.10.95 Test oil : ISO 4113

Combination No. : 0 402 646 644

Injection pump

Pump designation : FE6P120A320RS7319 EP type number : 0 412 626 914

Governor

Governer design. : RQV300...1400PA1124 Governer no. : 0 421 814 086

Cust. part No. : 866633 PO3 5.10.95

Customer-spec. information Customer : PENTA Motor : TAMD 63

Motor : TAMD 63 Power KW : 265.0

### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 1.5
Tolerance bar : +- 0.1

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : +- 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values \_\_\_\_\_

# BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 3.65 Tolerance mm : + 0.05

test only : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance :  $\leftarrow$  0.30

Check

tolerance \*NW : +- 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 12.90 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 241.0

Tolerance cm3/1000 strokes : +-

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s.	: +- 4.0	travel mm : 10.00 Tolerance mm : + 0.25
Spreed		+
Tolerance		+ Rated speed rpm : 1760
cm3/1000 strokes	: 8.0	+ guide sleeve
		+ travel mm : 11.50
Check tolerance		+ Tolerance mm : + 0.50
cm3/1000s.	: 11.0	1
Del. quantity		+ GUIDE SLEEVE POSITION
cm3/1000 strokes	: 23.0	
Tolerance		Rated speed rpm : 1640
cm3/1000 strokes	: +- 3.0	1 Added Speed (pill ) 1040
Check tolerance	. , 5.0	+ Rack travel in mm: 9.00
cm3/1000S.	: +- 5.0	Tolerance mm : + 3.00
	. +- 5.0	Total alice and . 7 3.00
Spreed		T
Tolerance	. 50	FIRE LOAD DELTUEDY AT CHILL LOAD CTOD
cm3/1000 strokes		+ FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance		1000
cm3/1000s.	: 8.0	Rated speed rpm : 1000 Aneroid pressure
		+ hPa : 2000
(B) SETTING OF IN	NJECTION PUMP	+ Del. quantity
WITH GOVERNOR		+ cm3/1000 strokes : 241.0
		Tolerance
		+ cm3/1000 strokes : + 1.0
GUIDE SLEEVE TRAN	/FL	+ Check tolerance
		+ cm3/1000s. : + 4.0
Rated speed rpm	: 300	+ Spreed
guide steeve	. 565	+ Tolerance
travel mm	: 1.24	+ cm3/1000 strokes : 8.0
Tolerance mm	: +- 0.25	+ Check tolerance
totel mice mit	0.2.	+ cm3/1000s. : 11.0
Rated speed rpm	: 1456	1
guide steeve	. 1450	
travel min	: 7.69	T
		CONTROL LEVER
Tolerance mm	: +- 0.25	T COMINOL LEVER
Ostani sasani sas	. 1170	T annual laws
Rated speed rpm	: 1170	t control lever
guide sleeve	P 279	position degree : 54.0
travel mm	: 5.67	tolerance degree : + 4.0
Tolerance mm	: <b>-</b> 0.25	†
		+ control lever
Rated speed rpm	: 448	position degree : 118.0
guide sleeve		+ tolerance degree : +- 4.0
travel mm	: 2.83	+
Tolerance mm	: <b>+</b> 0.25	+ RATED SPEED
		+
Rated speed rpm	: 498	+ rack travel mm : 11.90
guide sleeve		+ Rated speed rpm : 1440
travel mm	: 3.20	+ Tolerance 1/min : + 5
Tolerance mm	: + 0.25	+
		rack travel mm : 4.00
Rated speed rpm	: 698	Rated speed rpm : 1570
guide sleeve	<del></del>	Tolerance 1/min : + 15
travel mm	: 3.68	
Tolerance mm	: ÷ 0.25	rack travel mm : 0.50
LOCAL WILLE WILL		Tolerance mm : +- 0.50
Batad amond mm-	: 1638	Rated speed rpm : 1650
Rated speed rpm	: 1638	T water speed thin . 1000

		‡	Tolerance mm	: +- 0.20
LOW IDLE		<del>}</del>	Pressure hPa rack travel mm Tolerance mm	: 430 : 0.25 : +- 0.05
control lever position degree tolerance degree	: 81.0 : + 4.0	+++++++++++++++++++++++++++++++++++++++	FUEL DELIVERY CHA	ARACTERISTICS
control lever position degree tolerance degree Testing:	: 17.0 : +- 4.0	† † † †	Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes	
Rated speed rpm rack travel mm Tolerance mm	: 5.40 : +- 0.20	† † †	Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed	: + 3.0 : + 5.0
	: > 6.80	‡	Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	
Rated speed rpm TORQUE CONTROL	: 350	† †	Aneroid pressure hPa Rated speed rpm	: - : 500
Rated speed rpm rack travel mm Tolerance mm	: 12.90	† † †	Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	
Rated speed rpm rack travel mm Tolerance mm	: 12.90	+++++++++++++++++++++++++++++++++++++++	cm3/1000S.	: + 4.0
ANEROID/ALTITUDE COMPENSATOR TEST			Rack travel in mm Rated speed rpm Tolerance 1/min	
Rated speed rpm Pressure hPa	: 500 : 2000	† † †		
rack travel mm Tolerance mm MEASUREMENT	: 13.30 : + 0.05	† + + +	LOW IDLE	
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 500 : 8.20 : + 0.10	romponing to the state of the s	Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Checker	: ← 3.0
Rated speed rpm	: 500	‡	cm3/1000s. Spreed	: +- 5.0
Pressure hPa rack travel mm	: 1400 : 4.70	‡	Tolerance cm3/1000 strokes	: 5.0

Check tolerance cm3/1000s.	:	8.0	

BOSCH INJ. PUMP TEST SPECIFICATIONS Note remarks Refer to Service Info for test and adjustment instructions. See microcard(s) W400/... Edition : 13,10,95 : ISO 4113 Test oil Combination No. : 0 402 646 744 Injection pump Pump designation : FE6P120A320LS7872 EP type number : 0 412 626 912 Governor Governer design. : RQV300...1050PA1259 Governer no. : 0 421 814 169 Cust. part No. : 04221532 KY 0165-17 Customer-spec. information Customer : KHD : BF6M1015C Motor Power KW : 270.0 TEST BENCH REQUIREMENTS Inlet line : 3.1 Test oil inlet temp. °C 40 Tolerance °C : +- 2.0 Overflow valve : 1 417 413 047 Inlet press. bar : 2.0 Tolerance bar : + 0.1 Overflow quantity : 195 min. L/h Tolerance l/h: + 10.0

Outside diameter : 8.0 x inside diameter : 3.0 x length mm : 1000 REMARKS (A) INJECTION PUMP SETTING VALUES Set equal delivery quant. per values \_\_\_\_ BEGINNING OF DELIVERY Test pressure bar : 26.0 Tolerance bar : + 1.0 Prestroke mm : 4.05 Tolerance mm : + 0.05 test only :  $\leftarrow$  0.10 Rack travel in mm : 10.50 Tolerance mn: + 1.50 Firing order : 1-6-3-5-2-: 4 Phasing : 0-60-120-180-240 : -300 Tolerance : +- 0.30 Check tolerance \*NW : + 0.50 Start of delivery mark Barrel no. : 1 BASIC SETTING Rated speed rpm : 1050 Rack travel in mm : 13.20 Tolerance mm : +- 0.05 Del. quantity cm3/1000 strokes : 328.0

Test lines : 1 680 750 075

bar

Test nozzle holde

Opening pressure

Tolerance bar : + 1.5

assembly

: 1 688 90 105

: 208.5

Tolerance cm3/1000 strokes	: +- 1.0	Rated speed rpm : 1230 guide sleeve
Check tolerance cm3/1000s.	: +- 4.0	travel mm : 13.50 Tolerance mm : + 0.50
Spreed Tolerance cm3/1000 strokes	: 6.0	GUIDE SLEEVE POSITION
Check tolerance cm3/1000s.	: 9.0	+ Rated speed rpm : 1130 + Rack travel in mm : 12.70 + Tolerance mm : +- 1.30
Rated speed rpm	: 300	†
Rack travel in m Tolerance mm		FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1050
Del. quantity cm3/1000 strokes	: 23.0	Aneroid pressure
Tolerance cm3/1000 strokes	: ← 3.0	hPa : 1700 Del. quantity
Check tolerance cm3/1000s.	: +- 6.0	t cm3/1000 strokes : 328.0 Tolerance
Spreed Tolerance		t cm3/1000 strokes : + 1.0 Check tolerance
cm3/1000 strokes Check tolerance		+ cm3/1000s. : + 4.0 + Spreed
cm3/1000s.	: 12.0	Tolerance cm3/1000 strokes : 6.0
(B) SETTING OF I	NUECTION PUMP	Check tolerance cm3/1000s. : 9.0
MITTH GOASKIAOK		<del>}</del>
GUIDE SLEEVE TRA	VEL	CONTROL LEVER
GUIDE SLEEVE TRA	: 300	control lever position degree : 122.0
GUIDE SLEEVE TRA	: 300 : 1.24	control lever position degree : 122.0 tolerance degree : + 4.0
GUIDE SLEEVE TRAGE Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm	: 300 : 1.24 : +- 0.20	control lever position degree : 122.0 tolerance degree : + 4.0  RATED SPEED
GUIDE SLEEVE TRAG Rated speed rpm guide sleeve travel mm Tolerance mm	: 300 : 1.24 : +- 0.20	control lever position degree : 122.0 tolerance degree : + 4.0  RATED SPEED
GUIDE SLEEVE TRAI Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm	: 300 : 1.24 : + 0.20 : 1098 : 10.02 : + 0.15 : 860	control lever position degree : 122.0 tolerance degree : + 4.0  RATED SPEED  rack travel mm : 12.20 Rated speed rpm : 1085 Tolerance 1/min : +- 5  rack travel mm : 4.00 Rated speed rpm : 1125
GUIDE SLEEVE TRAI  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm Rated speed rpm	: 300 : 1.24 : + 0.20 : 1098 : 10.02 : + 0.15	control lever position degree : 122.0 tolerance degree : + 4.0  RATED SPEED  rack travel mm : 12.20 Rated speed rpm : 1085 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1125 Tolerance 1/min : + 15
GUIDE SLEEVE TRAI  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm travel mm Tolerance mm	: 300 : 1.24 : ← 0.20 : 1098 : 10.02 : ← 0.15 : 860 : 5.59 : ← 0.25 : 560	control lever position degree : 122.0 tolerance degree : + 4.0  RATED SPEED  rack travel mm : 12.20 Rated speed rpm : 1085 Tolerance 1/min : +- 5  rack travel mm : 4.00 Rated speed rpm : 1125
GUIDE SLEEVE TRA' Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 300 : 1.24 : ← 0.20 : 1098 : 10.02 : ← 0.15 : 860 : 5.59 : ← 0.25	control lever position degree : 122.0 tolerance degree : + 4.0  RATED SPEED  rack travel mm : 12.20 Rated speed rpm : 1085 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1125 Tolerance 1/min : + 15  rack travel mm : 0.50 Tolerance mm : + 0.50
GUIDE SLEEVE TRA' Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 300 : 1.24 : + 0.20 : 1098 : 10.02 : + 0.15 : 860 : 5.59 : + 0.25 : 560 : 3.24 : + 0.25	control lever position degree : 122.0 tolerance degree : + 4.0  RATED SPEED  rack travel mm : 12.20 Rated speed rpm : 1085 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1125 Tolerance 1/min : + 15  rack travel mm : 0.50 Tolerance mm : + 0.50

control lever position degree : tolerance degree : +- 4.0 Testing: Rated speed rpm 300 rack travel mm 4.60 : + - 0.10Tolerance mm Rated speed rpm 200 : > 6.10 CRT mm min. Rated speed rpm : 345 TORQUE CONTROL 1050 Rated speed rpm rack travel mm : 13.20 Tolerance mm : +- 0.05 ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm : 400 Pressure hPa 1700 13.20 rack travel mm Tolerance mm : **←** 0.05 **MEASUREMENT** Pressure hPa 400 Rated speed rpm 8.30 rack travel mm : **←** 0.20 Tolerance mm 400 Rated speed rpm 450 Pressure hPa : 9.20 rack travel mm : + 0.10Tolerance mm 1000 Pressure hPa 12.00 rack travel mm : ← 0.05 Tolerance mm FUEL DELIVERY CHARACTERISTICS Aneroid pressure

Toterance cm3/1000 strokes : +-1.0 Check tolerance cm3/1000S. : +-4.0 BREAKAWAY Rack travel in mm : 12.20 Rated speed rpm : 1085 Tolerance 1/min : +-STARTING FUEL DELIVERY Rated speed rpm 100 : rack travel mm 8.30 Tolerance mm : + 0.30Del. quantity cm3/1000 strokes : 135.0 Tolerance cm3/1000 strokes : +- 20.0Check tolerance cm3/1000s. : +- 24.0 LOW IDLE 300 Rated speed rpm : rack travel mm 4.60 Tolerance mm : +- 0.20 Del. quantity cm3/1000 strokes : 23.0 Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000S. 6.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. 12.0 : End of test specification sheet

Del. quantity

cm3/1000 strokes :

230.0

Rated speed rpm :

400

### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 17,10,95 Test oil : ISO 4113

Combination No. : 0 402 648 926

# Injection pump

Pump designation : FE8P120A320LS7840 EP type number : 0 412 628 850

### Governor

Governer design. : RQ300/1050PA972-11 Governer no. : 0 421 801 739

Cust. part No. : 0220747002

Customer-spec. information Customer : MB-NFZ Motor : 0M442 A Power KW : 250.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

1.5 Inlet press. bar : Tolerance bar : +- 0.1

Tolerance l/h: + 10.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 Tolerance bar

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : x Length mm : 1000

### REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0 Test pressure bar : 26.0

Prestroke mm 5.25 : +- 0.05 Tolerance mm

test only :  $\leftarrow$  0.10

Rack travel in mm: 20.50 Tolerance mm :  $\leftarrow 0.50$ 

Firing order : 8-7-2-6-3 : - 5- 4- 1

Phasing : 0-45-90-135-180

: -225-270-315 : + 0.30

Check

Tolerance

: +- 0.50 tolerance 'NW

Start of delivery mark

Barrel no. 8

## BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm: 12.60

: +- 0.10 Tolerance mm

Del. quantity

cm3/1000 strokes : 194.0

Tolerance

cm3/1000 strokes : + 1.0

1.19

Check tolerance cm3/1000s.	: + 4.0	guide sleeve - travel mm : 11.50 - Tolerance mm : +- 0.50
Spreed Tolerance cm3/1000 strokes	: 8.0	- GUIDE SLEEVE POSITION
		_
Check tolerance cm3/1000S.	: 11.0	Rated speed rpm : 600
Rated speed rpm	: 300	- Rack travel in mm : 20.00 - Tolerance mm : +- 0.80
Rack travel in m	n: 6.50	
Tolerance mm Del. quantity		FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000 strakes Tolerance	: 13.0	- Rated speed rpm : 1050 - Aneroid pressure
cm3/1000 strokes	: +- 3.0	- hPa : 1000
Check tolerance		- Del. quantity
cm3/1000S. Spreed	: + 6.0	- cm3/1000 strokes : 194.0 - Tolerance
Tolerance	1	- cm3/1000 strokes : +- 1.0
cm3/1000 strokes	: 4.0	- Check tolerance
Check tolerance cm3/1000s.	: 8.0	- cm3/1000S. : +- 4.0 - Spreed
	+	- Tolerance
(D) OFFTTNO OF 71	LIECTION DUMO	cm3/1000 strokes : 8.0
(B) SETTING OF IN WITH GOVERNOR	MECITON LAWS	- Check tolerance - cm3/1000s. : 11.0
GUIDE SLEEVE TRAN	/EL	
	1	- CONTROL LEVER
Rated speed rpm	: 300	- control lever
guide sleeve travel mm	: 1.85	- position degree : 96.0
Tolerance mm	: + 0.10	tolerance degree : +- 4.0
Rated speed rpm guide sleeve	: 1104	RATED SPEED
travel mm	: 6.37	rack travel man : 11.60
Tolerance mm	: <b>←</b> 0.10	Rated speed rpm : 1098 Tolerance 1/min : +- 8
Rated speed rpm	: 1050	rack travel mm : 4.00
guide sleeve travel mm	: 6.00	Rated speed rpm : 1200
Tolerance mm	The state of the s	Tolerance 1/min : +- 15
Rated speed rpm guide sleeve	: 402	rack travel mm : 0.75 Tolerance mm : + 0.75
travel mm	: 3.68	Tolerance mm : + 0.75 Rated speed rpm : 1250
Tolerance mm	: + 0.10	
Rated speed rpm guide sleeve	: 540	LOW IDLE
travel mm	: 6.00	
Tolerance mm	: + 0.10	and I lave
Rated speed rpm	: 1290	<pre>control lever position degree : 74.0 tolerance degree : ← 4.0</pre>

Testing:		Check speed 1/min : < 240
Rated speed rpm rack travel mm Tolerance mm	: 300 : 6.50 : +- 0.10	FUEL DELIVERY CHARACTERISTICS
rack travel mm Rated speed rpm Tolerance 1/min Rated speed rpm CRT mm min.	: 435 : +- 20 : 200	Aneroid pressure  hPa : 1000  Rated speed rpm : 800  Del. quantity  cm3/1000 strokes : 195.0  Tolerance  cm3/1000 strokes : + 2.0  Check tolerance  cm3/1000s. : + 5.0
TORQUE CONTROL  Rated speed rpm rack travel mm Tolerance mm  Rated speed rpm rack travel mm Tolerance mm	: 12.60 : + 0.10 : 800	Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 138.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0
ANEROID/ALTITUDE COMPENSATOR TEST		BREAKAWAY  Rack travel in mm : 11.60
SETTING  Rated speed rpm Pressure hPa	: 1000	Rated speed rpm : 1098 Tolerance 1/min : + 8
rack travel mm Tolerance mm		+ STARTING FUEL DELIVERY
MEASUREMENT Pressure hPa		+ Rated speed rpm : 100 + Del. quantity + cm3/1000 strokes : 190.0
Rated speed rom rack travel mm Tolerance mm	450 : i1.10 : + 0.15	Tolerance : +- 15.0 Check tolerance cm3/1000s. : +- 19.0
Rated speed rpm rack travel mm	: i1.10	Tolerance cm3/1000 strokes : +- 15.0 Check tolerance
Rated speed rpm rack travel mm Tolerance mm Rated speed rpm	: i1.10 : + 0.15 : 450	† Tolerance + cm3/1000 strokes : +- 15.0 + Check tolerance
Rated speed rpm rack travel mm Tolerance mm Rated speed rpm Pressure hPa rack travel mm	: i1.10 : ← 0.15 : 450 : 380 : 11.70	Tolerance cm3/1000 strokes : +- 15.0 Check tolerance cm3/1000S. : +- 19.0

Spreed

Tolerance cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. : 8.0

: 8.0

### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 17.10.95 Edition : ISO 4113 Test oil

Combination No. : 0 402 648 927

# Injection pump

Pump designation : FE8P12OA320LS7840 EP type number : 0 412 628 850

Governor

Governer design. : RQV300...1050PA797

: -38

: 0 421 814 084 Governer no.

Cust. part No. : 0220747102

Customer-spec. information : MB-NFZ Customer Motor : 0M442 A Power KW : 250.0

### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 1 419 992 198

1.5 Inlet press. bar : Tolerance bar : + 0.1

Overflow quantity

: 110 min. L/h Tolerance l/h: + 10.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 bar Tolerance bar : + 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : x Length mm : 1000

### REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

# BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm 5.25 : + 0.05Tolerance mm

test only :  $\leftarrow$  0.10

Rack travel in mm: 20.50 Tolerance mm : **←** 0.50

Firing order : 8-7-2-6-3 : - 5- 4- 1

: 0-45-90-135-180 Phasing : -225-270-315

: + 0.30Tolerance

Check

tolerance °NW : + 0.50

Start of delivery mark

Barret no. : 8

### BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 12.60 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 194.0

Tolerance	†
cm3/1000 strokes : + 1.0	CONTROL LEVER
Check tolerance cm3/1000s. : ← 4.0	control lever position degree : 122.0
Spreed Tolerance cm3/1000 strokes : 6.0	tolerance degree : +- 4.0  RATED SPEED
Check tolerance cm3/1000s. ; 9.0	rack travel mm : 11.60 Rated speed rpm : 1095 Tolerance 1/min : +- 5
Rated speed rpm : 300	+
Rack travel in mm: 6.50 Tolerance mm: + 0.30	rack travel mm : 4.00 Rated speed rpm : 1165 Tolerance 1/min : + 15
Del. quantity cm3/1000 strokes : 13.0 Tolerance cm3/1000 strokes : +- 3.0	rack travel mon : 0.50 Tolerance mon : + 0.50
Check tolerance cm3/1000s. : +- 6.0	Rated speed rpm : 1250
Spreed Tolerance	LOW IDLE
cm3/1000 strokes : 4.0 Check tolerance	<b>†</b>
cm3/1000s. : 8.0	control lever position degree : 86.0 tolerance degree : + 4.0
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Testing:
GUIDE SLEEVE POSITION	Rated speed rpm : 300 rack travel mm : 6.50 Tolerance mm : + 0.10
Rated speed rpm : 1100	Rated speed rpm : 200
Rack travel in mm : 16.50	CRT mm min. : > 7.90
Tolerance mm : +- 1.30	Rated speed rpm : 375
FULL LOAD DELIVERY AT FULL LO	AD STOP TORQUE CONTROL
Rated speed rpm : 1050 Aneroid pressure hPa : 1000	Rated speed rpm : 1050 + rack travel mm : 12.60
Del. quantity cm3/1000 strokes : 194.0	Tolerance mm : + 6.25
Tolerance cm3/1000 strokes : +- 1.0 Check tolerance	Rated speed rpm : 800 rack travel mm : 12.60 Tolerance mm : ÷- 0.05
cm3/1000S. : +- 4.0 Spreed	T rocerance mm : 7- 0.03
Tolerance cm3/1000 strokes : 6.0	ANEROID/ALTITUDE COMPENSATOR TEST
Check tolerance cm3/1000S. : 9.0	+ SETTING
	,

Pressure hPa	: 1000
rack travel mm	: 12.60
Tolerance mm	: +- 0.05
MEASUREMENT	
Pressure hPa	•
Rated speed rpm	: 450
rack travel mm	: 11.10
Tolerance mm	: 11.10 : +- 0.15
Pressure hPa	: 380
rack travel mm	: 11.75
Tolerance mm	: +- 0.15
TOTOL UNIT	• • • • • • • • • • • • • • • • • • • •
Pressure hPa	: 500
rack travel mm	: 12.35
Tolerance mm	: +- 0.20
TOCCI CITIC INII	0.20
START CUT-OUT	
Bakad amenden	
Rated speed rpm	: < 220
Check	
speed 1/min	: < 240
FUEL DELIVERY CHA	RACTERISTICS
Associal massocian	
Aneroid pressure	4600
hPa	: 1000
Rated speed rpm	: 80U
Del. quantity	
cm3/1000 strokes	: 195.0
Tolerance	.,,,,,,
cm3/1000 strokes	: <del>+</del> 2.0
Check tolerance	
cm3/1000S.	: +- 5.0
Ammadal massacras	
Aneroid pressure	
hPa	
Rated speed rpm	: 500
Del. quantity	470.5
cm3/1000 strokes	: 138.0
Tolerance	
cm3/1000 strokes	: +- 1.0
Check tolerance	
cm3/1000S.	: +- 4.0
BREAKAWAY	
Rack travel in mm	: 11.60
Poted speed nom	

# STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm3/1000 strokes : 190.0
Tolerance
cm3/1000 strokes : + 10.0

cm3/1000 strokes : + 10.0 Check tolerance cm3/1000s. : + 14.0

# LOW IDLE

Rated speed rpm	:	300
rack travel mm	:	6.50
Tolerance mm	: +-	0.30
Del. quantity		
cm3/1000 strokes	:	13.0
Tolerance		
cm3/1000 strokes	: +-	3.0
Check tolerance		
cm3/1000S.	: +	6.0
Spreed		
Tolerance		
cm3/1000 strokes	:	4.0
Check tolerance		
cm3/1000S.	:	8.0

End of test specification sheet

Rated speed rpm :

Tolerance 1/min : +-

1095

### Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 26.04.94 Test oil : ISO 4113

Combination No. : 0 402 648 949

Injection pump

Pump designation : FE8P120A320LS7863 EP type number : 0 412 628 874

Governor

Governer design. : RQV300...950PA1050

: -2K

Governer no. : 0 421 815 381

Cust. part No. : 0240740002

Customer-spec. information Customer : MB-NFZ Motor : 0M442 LA Power KW : 370.0

### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5Tolerance bar :  $\leftarrow 0.1$ 

Overflow quantity

min. L/h : 105 Tolerance L/h : + 10.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

# BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.05
Tolerance mm : + 0.05

test only : +- 0.10

Rack travel in mm : 14.05 Tolerance mm : + 0.50

Firing order : 8-7-2-6-3 :-5-4-1

Phasing : 0-45-90-135-180 : -225-270-315

Tolerance : + 0.30

Check

tolerance \*NW : +- 0.50

Start of delivery mark

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 950

Rack travel in mm : 14.80 Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 282.0	+ guide sleeve + travel mm : 3.10 + Tolerance mm : +- 0.25
Tolerance cm3/1000 strokes : + 1.0	Rated speed rpm : 510 guide sleeve
Check tolerance cm3/1000S. : + 4.0	+ travel mm : 3.52 + Tolerance mm : +- 0.25
Spreed Tolerance cm3/1000 strokes : 6.0	Rated speed rpm : 1192 guide sleeve travel mm : 12.00 Tolerance mm : + 0.25
Check tolerance cm3/1000s. : 9.0	Rated speed rpm : 1280 guide sleeve
Rated speed rpm : 300	travel mm : 13.50 Tolerance mm : +- 0.50
Rack travel in mm: 5.70	+
Tolerance mm : +- 0.30	
Del. quantity	GUIDE SLEEVE POSITION
cm3/1000 strokes : 19.0	2010
Tolerance : + 3.0	Rated speed rpm : 1160
Check tolerance	Rack travel in mm : 13.80
cm3/1000S. :+- 6.0	Tolerance man : +- 1.30
Spreed	Total de light
Tolerance	
cm3/1000 strokes : 6.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance	<del> </del>
cm3/1000s. : 10.0	Rated speed rpm : 950
	Aneroid pressure
(D) OPTITALO AR THURSTIAN PUMP	hPa : 1200
(B) SETTING OF INJECTION PUMP	Del. quantity
PULLER CALLUPE MOVERS	1 am2/10000 atraction a 797.0
HIIII GOVENION	+ cm3/1000 strokes : 282.0
THE CONTINUE OF THE CONTINUE O	Tolerance
	Tolerance cm3/1000 strokes : +- 1.0
GUIDE SLEEVE TRAVEL	Tolerance
	Tolerance - cm3/1000 strokes : +- 1.0 - Check tolerance
GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 - guide sleeve	Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000S. : +- 4.0 Spreed Tolerance
GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 guide sleeve travel mm : 1.63	Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000S. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0
GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 - guide sleeve	Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000S. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance
GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 guide sleeve travel mm : 1.63 Tolerance mm : + 0.25	Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000S. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0
GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 guide sleeve travel mm : 1.63 Tolerance mm : + 0.25  Rated speed rpm : 1006	Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000S. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance
GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 guide sleeve travel mm : 1.63 Tolerance mm : + 0.25  Rated speed rpm : 1006 guide sleeve	Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000S. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance
GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 guide sleeve travel mm : 1.63 Tolerance mm : + 0.25  Rated speed rpm : 1006	Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000S. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance
GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 guide sleeve travel mm : 1.63 Tolerance mm : + 0.25  Rated speed rpm : 1006 guide sleeve travel mm : 7.50 Tolerance mm : + 0.25	Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  CONTROL LEVER
GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 guide sleeve travel mm : 1.63 Tolerance mm : + 0.25  Rated speed rpm : 1006 guide sleeve travel mm : 7.50 Tolerance mm : + 0.25  Rated speed rpm : 790	Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  CONTROL LEVER  control lever position degree : 114.0
GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 guide sleeve travel mm : 1.63 Tolerance mm : + 0.25  Rated speed rpm : 1006 guide sleeve travel mm : 7.50 Tolerance mm : + 0.25  Rated speed rpm : 790 guide sleeve travel mm : 5.00	Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  CONTROL LEVER control lever
GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 guide sleeve travel mm : 1.63 Tolerance mm : + 0.25  Rated speed rpm : 1006 guide sleeve travel mm : 7.50 Tolerance mm : + 0.25  Rated speed rpm : 790 guide sleeve	Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  CONTROL LEVER  control lever position degree : 114.0 tolerance degree : +- 4.0
Rated speed rpm : 300 guide sleeve travel mm : 1.63 Tolerance mm : + 0.25  Rated speed rpm : 1006 guide sleeve travel mm : 7.50 Tolerance mm : + 0.25  Rated speed rpm : 790 guide sleeve travel mm : 7.50 Tolerance mm : + 0.25  Rated speed rpm : 790 guide sleeve travel mm : 5.00 Tolerance mm : + 0.25	Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  CONTROL LEVER  control lever position degree : 114.0
GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 guide sleeve travel mm : 1.63 Tolerance mm : + 0.25  Rated speed rpm : 1006 guide sleeve travel mm : 7.50 Tolerance mm : + 0.25  Rated speed rpm : 790 guide sleeve travel mm : 5.00 Tolerance mm : + 0.25  Rated speed rpm : 5.00 Tolerance mm : + 0.25	Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  CONTROL LEVER  control lever position degree : 114.0 tolerance degree : +- 4.0  RATED SPEED
GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 guide sleeve travel mm : 1.63 Tolerance mm : + 0.25  Rated speed rpm : 1006 guide sleeve travel mm : 7.50 Tolerance mm : + 0.25  Rated speed rpm : 790 guide sleeve travel mm : 5.00 Tolerance mm : + 0.25  Rated speed rpm : 5.00 Tolerance mm : + 0.25	Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000S. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000S. : 9.0  CONTROL LEVER  control lever position degree : 114.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : 13.80
GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 guide sleeve travel mm : 1.63 Tolerance mm : + 0.25  Rated speed rpm : 1006 guide sleeve travel mm : 7.50 Tolerance mm : + 0.25  Rated speed rpm : 790 guide sleeve travel mm : 5.00 Tolerance mm : + 0.25  Rated speed rpm : 5.00 Tolerance mm : + 0.25	Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  CONTROL LEVER  control lever position degree : 114.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : 13.80 Pated speed rpm : 995
GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 guide sleeve travel mm : 1.63 Tolerance mm : + 0.25  Rated speed rpm : 1006 guide sleeve travel mm : 7.50 Tolerance mm : + 0.25  Rated speed rpm : 790 guide sleeve travel mm : 5.00 Tolerance mm : + 0.25  Rated speed rpm : 5.00 Tolerance mm : + 0.25	Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  CONTROL LEVER  control lever position degree : 114.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : 13.80

Rated speed rpm : 10 Tolerance 1/min : +			
	+	ANEROID/ALTITUDE	
rack travel mm :	0.75	COMPENSATOR TEST	
Tolerance mm : +-			
Rated speed rpm : 12	250 +	di aminina di a 1 di	
	+	SETTING	
-		Rated speed rpm	• 850
LOW IDLE	<u> </u>	Pressure hPa	: 1200
	-	rack travel mm	: 15.00
	+	Tolerance mm	: ÷- 0.05
control lever	+		
position degree :	76.0	MEASUREMENT	
tolerance degree : +-	4.0		
<b>7</b>	†	Pressure hPa	. 050
Testing:	†	Rated speed rpm rack travel mm	: 650 : 7.95
Rated speed rpm : 3	rnn I	Toterance mm	: + 0.15
rack travel mm :	5.20	TOCCT WITCO HAR	
rack travel nm : Tolerance mm : +-		Rated speed rpm	: 85 <b>0</b>
	+		
Rated speed rpm : 2	200 +	Pressure hPa	
	7 70	rack travel nm	: 12.20
CRT mm min. :>	7.50	Tolerance mm	: + 0.70
Rated speed rpm : 3	300	Pressure hPa	: 150
nated apeca i wis	1	rack travel mm	8.80
		rack travel mm Tolerance mm	: +- 0.20
TORQUE CONTROL	+		
_	<u> </u>		
Rated speed rpm : 9		START CUT-CUT	
rack travel mm : 1		<b>5</b>	220
Tolerance mm : +-	+	Rated speed rpm Check	
Rated speed rpm : 8	350 +	speed 1/min	: < 240
rack travel mm : 1	5.00 +		
Tolerance mm : +-	0.10	CHEL DELTHERY CHAI	7 A CT C 7 C C C C C C C C C C C C C C C C
Sets depend now 4 7	250	FUEL DELIVERY CHA	RACTERISTICS
Rated speed rpm : 7 rack travel mm : 1		Aneroid pressure	
Tolerance mm : +	n. 10		
i caracter and a second	<u> </u>	hPa Rated speed rpm	: 750
Rated speed rpm : 7	'00 <del> </del>	Del. quantity	
rack travel mm : 1	4.20	cm3/1000 strokes	: 277.0
Tolerance mm : +	0.10	Tolerance	
		cm3/1000 strokes	: +- 2.0
Rated speed rpm : 6 rack travel mm : 1	50	Check tolerance	
rack travel mm : 1 Tolerance mm : + 1	0.10	cm3/1000s. Spreed	: +- 5.0
roterance num : +-	1	Tolerance	
Rated speed rpm : 5	50	cm3/1000 strokes	: 8.0
rack travel mm : 1	3.95	Sheck tolerance	
Tolerance mm : +-	0.10	cm3/1000s.	
	+		
Rated speed rpm : 41 rack travel mm : 1: Tolerance mm : + 1	00 +	Aneroid pressure	4200
rack travel mm : 1	2.20	hPa	: 1200
iolerance mm : +- I	U. 10 †	Rated speed rpm Del. quantity	: 550
	I	cm3/1000 strokes	· 268.0
	i		

<b>T</b> -	
Tolerance	. 7.0
cm3/1000 strokes	: <del>+-</del> 3.0
Check tolerance	
cm3/1000s.	: <del>+-</del> 6.0
Spreed	
Tolerance	
cm3/1000 strokes	: 8.0
Check tolerance	. 0.0
	. 42.0
cm3/1000s.	: 12.0
Aneroid pressure	
'nРа	: 500
Rated speed rpm	: 400
Del. quantity	
cm3/1000 strokes	: 196.0
Tolerance	, ., .,
cm3/1000 strokes	: +- 1.5
	1.5
Check tolerance	
cm3/1000s.	: +- 4.5
Aneroid pressure	
hPa	: -
Rated speed rpm	: 500
Del. quantity	
cm3/1000 strokes	: 133.0
Tolerance	
cm3/1000 strokes	: ← 1.0
Check tolerance	. , ,,,,
	: +- 4.0
cm3/1000s.	: +- 4.0
Spreed	
Tolerance	
cm3/1000 strokes	: 8.0
Check tolerance	
cm3/1000s.	: 12.0
BREAKAWAY	
Rack travel in mm	: 13.80
Rated speed rpm	995
Tolerance 1/min	: + 5
locerance Dinin	. — 3
STARTING FUEL DEL	THERY
STARTING FUEL DEL	TACKA
	400
Rated speed rpm	: 100
rack travel mm	: 11.80
Tolerance mm	: +- 0.40
Del. quantity	
cm3/1000 strokes	: 130.0
CHOI TOUG SCIUNES	: 150.0
	: 150.0
Tolerance	
Tolerance cm3/1000 strokes	: +- 10.0
Tolerance	

# LOW IDLE

Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes	: +	300 5.70 0.30 19.0 3.0 6.0	
cm3/1000 strokes	:	6.0	
Check tolerance cm3/1000s.	•	10.0	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : 19.07.95 : ISO 4113

Combination No. : 0 402 648 9530

Injection pump

Pump designation : FE8P120A320LS7859 EP type number : 0 412 628 869

Governor

Governer design. : RQV300...950PA1033

: -10

Governer no.

: 0 421 814 040

Cust. part No. : 0230749702

Customer-spec. information Customer : MB-NFZ : 0M442 LA Motor Power KW : 320.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

40 temp. °C Tolerance °C : + - 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5 Tolerance bar : +-0.1

Tolerance l/h: +- 10.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 bar Tolerance bar : + 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : + 1.0

Prestroke mm 5.25 : +- 0.05 Tolerance mm

: +- 0.10 test only

Rack travel in mm: 20.50 Tolerance mm : + 0.50

Firing order : 8-7-2-6-3

: - 5- 4- 1

Phasing : 0-45-90-135-180

: -225-270-315

Tolerance : ← 0.30

Check

tolerance "NW : +- 0.50

Start of delivery mark

Barrel no. :

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 15.00

Tolerance mm :  $\leftarrow$  0.05

Del. quantity

cm3/1000 strokes : 254.0

Tolerance		+
cm3/1000 strokes	: <del>←</del> 1.0	+ Rated speed rpm : 780
		guide sLeeve
Check tolerance		+ travel mm : 6.31
cm3/1000s.	: <del>+-</del> 4.0	+ Tolerance mm : + 0.25
		†
Spreed		+ Rated speed rpm : 1092
Tolerance		+ guide sleeve
cm3/1000 strokes	: 6.0	+ travel mm : 10.00
		+ Tolerance mm : + 0.25
Check tolerance		1 TOTAL BRICE WAR
cm3/1000s.	: 9.0	Rated speed rpm : 1190
CIRS/ TUDOS.	: 9.0	
	700	guide steeve
Rated speed rpm	: 300	+ travel mm : 11.50
		+ Tolerance mm : + 0.50
Rack travel in mn	n: 6.10	+
Tolerance mm		
Del. quantity	. 0.50	GUIDE SLEEVE POSITION
cm3/1000 strokes	: 19.0	T GOIDE SEEERE POSITION
	: 19.0	7 200
Tolerance		+ Rated speed rpm : 1035
cm3/1000 strokes	: +- 3.0	+
Check tolerance		+ Rack travel in mm : 14.00
cm3/1000s.	: +- 6.0	+ Tolerance mm : + 1.30
Spreed		
Tolerance		
cm3/1000 strokes	: 6.0	FULL LOAD DELIVERY AT FULL LOAD STOP
		T FOLE LOAD DELIVER! AT FOLE EVALVISION
Check tolerance		T and the second
cm3/1000S.	: 10.0	+ Rated speed rpm : 550
		+ Aneroid pressure
		+ hPa : 1000
(B) SETTING OF IN	WECTION PUMP	
(B) SETTING OF IN	JECTION PUMP	+ Del. quantity
(B) SETTING OF IN WITH GOVERNOR	JECTION PUMP	Del. quantity + cm3/1000 strokes : 254.0
	JECTION PUMP	Del. quantity cm3/1000 strokes : 254.0 Tolerance
WITH GOVERNOR		Del. quantity cm3/1000 strokes : 254.0 Tolerance cm3/1000 strokes : +- 1.0
		Del. quantity cm3/1000 strokes : 254.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance
WITH GOVERNOR  GUIDE SLEEVE TRAV	/EL	Del. quantity cm3/1000 strokes : 254.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0
GUIDE SLEEVE TRAV	/EL	Del. quantity cm3/1000 strokes : 254.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed
WITH GOVERNOR  GUIDE SLEEVE TRAV	EL: 300	Del. quantity cm3/1000 strokes : 254.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance
GUIDE SLEEVE TRAV	EL: 300:: 1.29	Del. quantity cm3/1000 strokes : 254.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed
GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm	EL: 300:: 1.29	Del. quantity cm3/1000 strokes : 254.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0
GUIDE SLEEVE TRAV Rated speed rpm guide sleeve	EL: 300	Del. quantity cm3/1000 strokes : 254.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance
WITH GOVERNOR  GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm	EL : 300 : 1.29 : ← 0.25	Del. quantity cm3/1000 strokes : 254.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0
WITH GOVERNOR  GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm	EL: 300:: 1.29	Del. quantity cm3/1000 strokes : 254.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance
WITH GOVERNOR  GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve	EL : 300 : 1.29 : + 0.25 : 1009	Del. quantity cm3/1000 strokes : 254.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance
WITH GOVERNOR  GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm	EL : 300 : 1.29 : ← 0.25 : 1009 : 8.55	Del. quantity cm3/1000 strokes : 254.0  Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0
WITH GOVERNOR  GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve	EL : 300 : 1.29 : + 0.25 : 1009	Del. quantity cm3/1000 strokes : 254.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance
WITH GOVERNOR  GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm	EL : 300 : 1.29 : + 0.25 : 1009 : 8.55 : + 0.25	Del. quantity cm3/1000 strokes : 254.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0
GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	EL : 300 : 1.29 : ← 0.25 : 1009 : 8.55	Del. quantity cm3/1000 strokes : 254.0  Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0
GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm Tolerance mm	EL : 300 : 1.29 : + 0.25 : 1009 : 8.55 : + 0.25	Del. quantity cm3/1000 strokes : 254.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  CONTROL LEVER control lever
GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	: 300 : 1.29 : + 0.25 : 1009 : 8.55 : + 0.25	Del. quantity cm3/1000 strokes : 254.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  CONTROL LEVER  control lever position degree : 121.0
GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	EL : 300 : 1.29 : +- 0.25 : 1009 : 8.55 : +- 0.25 : 1570 : 24.56	Del. quantity cm3/1000 strokes : 254.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  CONTROL LEVER control lever
GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	: 300 : 1.29 : + 0.25 : 1009 : 8.55 : + 0.25	Del. quantity cm3/1000 strokes : 254.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  CONTROL LEVER  control lever position degree : 121.0 tolerance degree : + 4.0
GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Tolerance mm Tolerance mm	EL : 300 : 1.29 : + 0.25 : 1009 : 8.55 : + 0.25 : 1570 : 24.56 : + 0.25	Del. quantity cm3/1000 strokes : 254.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  CONTROL LEVER  control lever position degree : 121.0
GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	EL : 300 : 1.29 : +- 0.25 : 1009 : 8.55 : +- 0.25 : 1570 : 24.56	Del. quantity cm3/1000 strokes : 254.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  CONTROL LEVER  control lever position degree : 121.0 tolerance degree : + 4.0  RATED SPEED
GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	EL : 300 : 1.29 : + 0.25 : 1009 : 8.55 : + 0.25 : 1570 : 24.56 : + 0.25 : 567	Del. quantity cm3/1000 strokes : 254.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  CONTROL LEVER  control lever position degree : 121.0 tolerance degree : + 4.0  RATED SPEED  rack travel mm : 14.00
GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	EL : 300 : 1.29 : + 0.25 : 1009 : 8.55 : + 0.25 : 1570 : 24.56 : + 0.25	Del. quantity cm3/1000 strokes : 254.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  CONTROL LEVER  control lever position degree : 121.0 tolerance degree : + 4.0  RATED SPEED
GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	EL : 300 : 1.29 : + 0.25 : 1009 : 8.55 : + 0.25 : 1570 : 24.56 : + 0.25 : 567	Del. quantity cm3/1000 strokes : 254.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  CONTROL LEVER  control lever position degree : 121.0 tolerance degree : + 4.0  RATED SPEED  rack travel mm : 14.00
GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	EL : 300 : 1.29 : + 0.25 : 1009 : 8.55 : + 0.25 : 1570 : 24.56 : + 0.25 : 567 : 4.66	Del. quantity cm3/1000 strokes : 254.0  Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  CONTROL LEVER  control lever position degree : 121.0 tolerance degree : + 4.0  RATED SPEED  rack travel mm : 14.00 Rated speed rpm : 995
GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	EL : 300 : 1.29 : + 0.25 : 1009 : 8.55 : + 0.25 : 1570 : 24.56 : + 0.25 : 567 : 4.66 : + 0.25	Del. quantity cm3/1000 strokes : 254.0  Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  CONTROL LEVER  control lever position degree : 121.0 tolerance degree : + 4.0  RATED SPEED  rack travel mm : 14.00 Rated speed rpm : 995 Tolerance 1/min : + 5
GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	EL : 300 : 1.29 : + 0.25 : 1009 : 8.55 : + 0.25 : 1570 : 24.56 : + 0.25 : 567 : 4.66	Del. quantity cm3/1000 strokes : 254.0  Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  CONTROL LEVER  control lever position degree : 121.0 tolerance degree : + 4.0  RATED SPEED  rack travel mm : 14.00 Rated speed rpm : 995 Tolerance 1/min : + 5  rack travel mm : 4.00
GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve	EL  : 300 : 1.29 : + 0.25 : 1009 : 8.55 : + 0.25 : 1570 : 24.56 : + 0.25 : 567 : 4.66 : + 0.25 : 617	Del. quantity cm3/1000 strokes : 254.0  Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  CONTROL LEVER  control lever position degree : 121.0 tolerance degree : + 4.0  RATED SPEED  rack travel mm : 14.00 Rated speed rpm : 995 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1090
GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	EL : 300 : 1.29 : + 0.25 : 1009 : 8.55 : + 0.25 : 1570 : 24.56 : + 0.25 : 567 : 4.66 : + 0.25	Del. quantity cm3/1000 strokes : 254.0  Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  CONTROL LEVER  control lever position degree : 121.0 tolerance degree : + 4.0  RATED SPEED  rack travel mm : 14.00 Rated speed rpm : 995 Tolerance 1/min : + 5  rack travel mm : 4.00

rack travel man Tolerance man Rated speed rpan	: +- 0.75	Pressure hPa : 250 rack travel mm : 10.80 Tolerance mm : + 0.10
LOW IDLE		+ Pressure hPa : 550 + rack travel mm : 13.70 + Tolerance mm : +- 0.10
control lever position degree tolerance degree		START CUT-OUT  Rated speed rpm : < 220 Check
Rated speed rpm rack travel mm	: 6.10	speed 1/min : < 240
Tolerance mm	: ← 0.10	+ FUEL DELIVERY CHARACTERISTICS
rack travel mm Rated speed rpm Tolerance 1/min	: 443	Aneroid pressure hPa : 1000 Rated speed rpm : 950 Del. quantity
Rated speed rpm	: 200	cm3/1000 strokes : 242.0 Tolerance
CRT mm min.	: > 9.00	+ cm3/1000 strokes : +- 2.0 + Check tolerance
Rated speed rpm	: 350	+ cm3/1000S. : +- 5.0 + Spreed + Tolerance
TORQUE CONTROL		- cm3/1000 strokes : 8.0 - Check tolerance
Rated speed rpm rack travel mm Tolerance mm	: 15.00	+ cm3/1000s. : 12.0 + Aneroid pressure + hPa : -
Rated speed rpm rack travel mm Tolerance mm	: 15.00	Rated speed rpm : 500  Del. quantity  cm3/1000 strokes : 135.0  Tolerance
ANEROID/ALTITUDE COMPENSATOR TEST		cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed
SETTING		Tolerance cm3/1000 strokes: 8.0 Check tolerance
Rated speed rpm Pressure hPa rack travel mm	: 400 : 1000 : 15.00	cm3/1000s. : 12.0
Tolerance mm	: <b>-</b> 0.05	+ BREAKAWAY
MEASUREMENT  Pressure hPa Rated speed rpm rack travel mm	: - : 400 : 9.10 : +- 0.15	+ Rack travel in mm : 14.00 + Rated speed rpm : 995 + Tolerance 1/min : +- 5
Tolerance mm Rated speed rpm	: 400	STARTING FUEL DELIVERY

Rated speed rpm Del. quantity	:	100
cm3/1000 strokes	:	235.0
Tolerance cm3/1000 strokes	: +-	10.0
Check tolerance cm3/1000s.	: +-	14.0

# LOW IDLE

Rated speed rpm rack travel mm	:		300 6.10
Tolerance mm	:	+-	0.30
Del. quantity cm3/1000 strokes	:		19.0
Tolerance cm3/1000 strokes	:	+	3.0
Check tolerance cm3/1000s.	:	<del>+-</del>	6.0
Spreed Tolerance			
cm3/1000 strokes	:		6.0
Check tolerance cm3/1000s.	:		10.0

### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 29.06.95 Test oil : ISO 4113

Combination No. : 0 402 678 803

Injection pump

Pump designation : FE8P120A320LS7801-1 EP type number : 0 412 628 818

Governor

Governer design. : RSV350...750F0A825

: -3

Governer no. : 0 421 833 260

Cust. part No. :

Customer—spec. information Customer : MB-NFZ Motor : OM442A Power KW : 240.0

### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp.  $^{\circ}$ C : 40 Tolerance  $^{\circ}$ C :  $\leftarrow$  2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity

min. L/h : 110 Tolerance L/h : + 10.0

Test nozzle holde

assembly : 1 688 901 019

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test Lines : 1 680 750 067

Outside diameter : 6.0

x inside diameter : 1.5 x Length mm : 1000

### REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

# BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05

test only  $: \leftarrow 0.10$ 

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 8-7-2-6-3

: - 5- 4- 1

Phasing : 0-45-90-135-180 : -225-270-315

Tolerance : + 0.30

Check

tolerance °NW : +- 0.50

Start of delivery mark

Barrel no. : 8

### BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 15.15 Tolerance mm : + 0.05

rocci di lee limb

Del. quantity

cm3/1000 strokes : 234.0

M06

Tolerance cm3/1000 strokes : +- 1.0	
- TIBS (1000 SETORES . 1" 1.0	CONTROL LEVER
Check tolerance cm3/100GS. : +- 4.0	control lever position degree : 78.0
Spreed Tolerance cm3/1000 strokes : 5.0	tolerance degree : +- 4.0
Check tolerance cm3/1000s. : 9.0	Rated speed rpm : 750 rack travel mm : 14.15
Rated speed rpm : 350	
Rack travel in mm: 5.30	Rated speed rpm : 779 Tolerance 1/min : +- 4
Tolerance mm : + 0.30 - Del. quantity -	rack travel mm : 4.00
cm3/1000 strokes : 19.0	rack travel mm : 0.85
Tolerance - cm3/1000 strokes : +- 3.0	- Tolerance mm : ← 0.55
Check tolerance	Rated speed rpm : 751
cm3/1000s. : +- 6.0 Spreed	rack travel mm : 14.15
Tolerance - 8.0	- Rated speed rpm : 780 - Tolerance 1/min : ← 4
Check tolerance	- Tolerance 1/min : ← 4 - rack travel mm : 4.00
cm3/1000s. : 12.0	rack travel mm : 0.85
1	Tolerance mm : + 0.55
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Rated speed rpm : 752
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Rated speed rpm : 752 rack travel mm : 14.15
WITH GOVERNOR	rack travel mm : 14.15 Rated speed rpm : 781
	rack travel mm : 14.15 Rated speed rpm : 781 Tolerance 1/min : +- 4
WITH GOVERNOR	rack travel mm : 14.15  Rated speed rpm : 781  Tolerance 1/min : + 4  rack travel mm : 4.00
GUIDE SLEEVE POSITION  Rated speed rpm : 800	rack travel mm : 14.15  Rated speed rpm : 781  Tolerance 1/min : + 4  rack travel mm : 4.00  rack travel mm : 0.85
GUIDE SLEEVE POSITION	rack travel mm : 14.15  Rated speed rpm : 781  Tolerance 1/min : + 4  rack travel mm : 4.00  rack travel mm : 0.85  Tolerance mm : + 0.55
GUIDE SLEEVE POSITION  Rated speed rpm : 800  Rack travel in mm : 0.50	rack travel mm : 14.15  Rated speed rpm : 781  Tolerance 1/min : + 4  rack travel mm : 4.00  rack travel mm : 0.85
GUIDE SLEEVE POSITION  Rated speed rpm : 800  Rack travel in mm : 0.50	rack travel mm : 14.15  Rated speed rpm : 781 Tolerance 1/min : + 4 rack travel mm : 4.00  rack travel mm : 0.85 Tolerance mm : + 0.55  Rated speed rpm : 753 rack travel mm : 14.15
GUIDE SLEEVE POSITION  Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 700	rack travel mm : 14.15  Rated speed rpm : 781 Tolerance 1/min : + 4 rack travel mm : 4.00  rack travel mm : 0.85 Tolerance mm : + 0.55  Rated speed rpm : 753 rack travel mm : 14.15  Rated speed rpm : 782 Tolerance 1/min : + 4
GUIDE SLEEVE POSITION  Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 700 Aneroid pressure	rack travel mm : 14.15  Rated speed rpm : 781 Tolerance 1/min : + 4 rack travel mm : 4.00  rack travel mm : 0.85 Tolerance mm : + 0.55  Rated speed rpm : 753 rack travel mm : 14.15  Rated speed rpm : 782
GUIDE SLEEVE POSITION  Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 700 Aneroid pressure hPa : - Del. quantity	rack travel mm : 14.15  Rated speed rpm : 781  Tolerance 1/min : + 4  rack travel mm : 4.00  rack travel mm : 0.85  Tolerance mm : + 0.55  Rated speed rpm : 753  rack travel mm : 14.15  Rated speed rpm : 782  Tolerance 1/min : + 4  rack travel mm : 4.00  rack travel mm : 0.85
GUIDE SLEEVE POSITION  Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : +- 0.20  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 700 Aneroid pressure hPa : Del. quantity cm3/1000 strokes : 234.0	rack travel mm : 14.15  Rated speed rpm : 781  Tolerance 1/min : + 4  rack travel mm : 4.00  rack travel mm : 0.85  Tolerance mm : + 0.55  Rated speed rpm : 753  rack travel mm : 14.15  Rated speed rpm : 782  Tolerance 1/min : + 4  rack travel mm : 4.00
GUIDE SLEEVE POSITION  Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 700 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 234.0 Tolerance cm3/1000 strokes : + 1.0	Rated speed rpm : 781   Tolerance 1/min : + 4   rack travel mm : 4.00
GUIDE SLEEVE POSITION  Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : +- 0.20  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 700 Aneroid pressure hPa : Del. quantity cm3/1000 strokes : 234.0 Tolerance	Rated speed rpm : 781   Tolerance 1/min : + 4   rack travel mm : 4.00
GUIDE SLEEVE POSITION  Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 700 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 234.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed	Rated speed rpm : 781   Tolerance 1/min : + 4   4.00
GUIDE SLEEVE POSITION  Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 700 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 234.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0	Rated speed rpm : 781   Tolerance 1/min : + 4   4.00
GUIDE SLEEVE POSITION  Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 700 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 234.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance	Rated speed rpm

Rated speed rpm rack travel mm	: 755 : 14.15
Rated speed rpm Tolerance 1/min rack travel mm	: +- 4
rack travel mm Tolerance mm	: 0.85 : + 0.55
LOW IDLE	
control lever position degree tolerance degree	: 64.0 : ÷ 4.0
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 350 : 5.30 : + 0.10
rack travel mm Rated speed rpm Tolerance 1/min	
	400
Rated speed rpm	: 100
CRT mm min.	: 100
CRT mm min.	: > 15.00
CRT mm min. SET IDLE AUXILIAR	: > 15.00 Y SPRING
CRT mm min.	: > 15.00 Y SPRING
CRT mm min. SET IDLE AUXILIAR	: > 15.00 Y SPRING
CRT mm min.  SET IDLE AUXILIAR rack travel mm  TORQUE CONTROL Rated speed rpm	: > 15.00 PY SPRING : 2.00 : 700
CRT mm min.  SET IDLE AUXILIAR rack travel mm  TORQUE CONTROL Rated speed rpm rack travel mm	: > 15.00 PY SPRING : 2.00 : 700 : 15.15
CRT mm min.  SET IDLE AUXILIAR rack travel mm  TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: > 15.00 PY SPRING : 2.00 : 700 : 15.15 : + 0.05
CRT mm min.  SET IDLE AUXILIAR rack travel mm  TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm  Rated speed rpm	: > 15.00 PY SPRING : 2.00 : 700 : 15.15 : + 0.05 : 600
CRT mm min.  SET IDLE AUXILIAR rack travel mm  TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: > 15.00 PY SPRING : 2.00 : 700 : 15.15 : + 0.05
CRT mm min.  SET IDLE AUXILIAR rack travel mm  TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm  Rated speed rpm rack travel mm	: > 15.00 PY SPRING : 2.00 : 700 : 15.15 : + 0.05 : 600 : 15.15
CRT mm min.  SET IDLE AUXILIAR rack travel mm  TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm  Rated speed rpm rack travel mm	: > 15.00 PY SPRING : 2.00 : 700 : 15.15 : + 0.05 : 600 : 15.15 : + 0.10
CRT mm min.  SET IDLE AUXILIAR rack travel mm  TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm	: > 15.00 PY SPRING : 2.00 : 700 : 15.15 : + 0.05 : 600 : 15.15 : + 0.10
CRT mm min.  SET IDLE AUXILIAR rack travel mm  TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm  Rated speed rpm rack travel mm Tolerance mm	: > 15.00  PY SPRING  : 2.00  : 700 : 15.15 : +- 0.05 : 600 : 15.15 : +- 0.10  RACTERISTICS :
CRT mm min.  SET IDLE AUXILIAR  rack travel mm  TORQUE CONTROL  Rated speed rpm rack travel mm Tolerance mm  Rated speed rpm rack travel mm Tolerance mm  FUEL DELIVERY CHA  Aneroid pressure hPa Rated speed rpm Del. quantity	: > 15.00 PY SPRING : 2.00  : 700 : 15.15 : +- 0.05 : 600 : 15.15 : +- 0.10  RACTERISTICS : 600
CRT mm min.  SET IDLE AUXILIAR  rack travel mm  TORQUE CONTROL  Rated speed rpm rack travel mm Tolerance mm  Rated speed rpm rack travel mm Tolerance mm  FUEL DELIVERY CHA  Aneroid pressure hPa Rated speed rpm	: > 15.00  PY SPRING  : 2.00  : 700 : 15.15 : +- 0.05 : 600 : 15.15 : +- 0.10  RACTERISTICS :

Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: +- 6.0 : 8.0 : 12.0
STARTING FUEL DEL	IVERY
Rated speed rpm Del. quantity	: 100
cm3/1000 strokes Tolerance	: 240.0
cm3/1000 strokes Check tolerance	: <del>+</del> 10.0
cm3/1000s.	: + 14.0
LOW IDLE	
Rated speed rpm	: 350
rack travel mm Tolerance mm	: 5.30 : +- 0.30
Del. quantity cm3/1000 strokes	: 19.0
Tolerance cm3/1000 strokes	: +- 3.0
Check tolerance cm3/1000s. Spreed	: +- 6.0
Tolerance cm3/1000 strokes	: 8.0
Check tolerance cm3/1000s.	: 12.0

### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 07.07.93 Edition : ISO 4113 Test oil

Combination No. : 0 402 678 817

# Injection pump

Pump designation : FE8P120A320LS7856 EP type number : 0 412 628 867

### Governor

Governer design. : RSV550...1050P0A826

: -4

Governer no. : 0 421 833 383

Cust. part No. : 0230743202

Customer-spec. information Customer : MB-NFZ Motor : OM442LA

Power KW : 320.0

### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity

min. L/h : 110 Tolerance L/h : + 10.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 bar Tolerance bar : + 1.5 Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05

test only : **←** 0.10

Rack travel in mm: 20.50 : +- 0.50 Tolerance mm

Firing order : 8-7-2-6-3 : - 5- 4- 1

Phasing : 0-45-<del>9</del>0-135-180

: -225-270-315 Tolerance : +- 0.30

Check

tolerance \*NW : + 0.50

Start of delivery mark

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 1080

Rack travel in mm: 13.75 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 225.0

Tolerance	Tolerance cm3/1000 strokes : 5.0
cm3/1000 strokes : +- 1.0	Check tolerance
CHET TODO SETURES . THE	cm3/1000s. : 9.0
Check tolerance	
cm3/1000s. : +- 4.0	
<u> </u>	
Spreed	CONTROL LEVER
Tolerance	
cm $3/1000$ strokes : 5.0	control Lever
	position degree : 92.0
Check tolerance + cm3/1000s. : 9.0 +	tolerance degree : + 4.0
cm3/1000s. : 9.0	
Rated speed rpm : 550	
Raced Speed (pill : 990	
Rack travel in mm: 4.10	LOW IDLE
Tolerance mm : + 0.30 +	
Del. quantity	
cm3/1000 strokes : 19.0	control lever
Tolerance	position degree : 72.0
cm3/1000 strokes : + 3.0 +	tolerance degree : + 4.0
Check tolerance	₩.=k.5
cm3/1000s. : +- 6.0	Testing:
Spreed † Tolerance †	Rated speed rpm : 550
cm3/1000 strokes : 8.0	rack travel mm : 4.10
Check tolerance	Tolerance mm : + 0.10
cm3/1000s. : 12.0	To be control that the control of th
	rack travel mm : 2.00
+	Rated speed rpm : 570
(B) SETTING OF INJECTION PUMP	Tolerance 1/min : + 30
WITH GOVERNOR +	
+	Rated speed rpm : 100
†	CDT 10 FG
GUIDE SLEEVE POSITION	CRT mm min. : > 19.50
GOIDE STEERS LOST: TON	SET IDLE AUXILIARY SPRING
Rated speed rpm : 800	SC: INC. MONICIAN: STRING
There opeca i più	rack travel mm : 2.00
Rack travel in mm: 0.50	
Toterance mm : + 0.20	
+	TORQUE CONTROL
governor spring +	<b>.</b>
pre-tension +	Rated speed rpm : 1080
click setting $x$ : 2.00	rack travel mm : 13.75 Tolerance mm : +- 0.05
	interdice min : 70 0.05
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 600
TOLL LOND DELIVERY AT TOLL COMP OF O	rack travel mm : 14.00
Aneroid pressure	Tolerance mm : + 0.10
hPa : - +	
Del. quantity	Rated speed rpm : 940
cm3/1000 strokes : 225.0 +	rack travel mm : 14.00 Tolerance mm : + 0.10
Tolerance	Tolerance mm : + 0.10
cm3/1000 strokes : + 1.0	
Check tolerance + 4.0 +	
Spreed + 4.0	
T T	FUEL DELIVERY CHARACTERISTICS
1	- Care Care Care Care Care Care Care Care

Aneroid pressure hPa Del. quantity cm3/1000 strokes : 242.0 Tolerance cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s. 5.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. 12.0

# STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 15.00 Tolerance mm : + 0.20 Del. quantity cm3/1000 strokes : 225.0 Tolerance cm3/1000 strokes : + 10.0 Check tolerance cm3/1000s. : +- 14.0

# LOW IDLE

550 Rated speed rpm 4.10 rack travel mm Tolerance mm : ← 0.30 Del. quantity cm3/1000 strokes : 19.0 Tolerance cm3/1000 strokes 3.0 Check tolerance cm3/1000s. 6.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. 12.0

## Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 13.10.95 Test oil : ISO 4113

Combination No. : 0 402 736 890

# Injection pump

Pump designation : FES6P12DA12DRS7314 EP type number : 0 412 726 901

### Governor

Governer design. : RQV400...1250PA964

: -32k

Governer no. : 0 421 815 486

Cust. part No. : 3282607

Customer-spec. information
Customer : CUMMINS
Motor : 68TAA
Power KW : 158.0

### TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 2.0
Tolerance bar : +- 0.1

Overflow quantity

min. l/h : 140 Tolerance l/h : + 20.0

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

# BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.70
Tolerance mm : + 0.05

test only :  $\leftarrow$  0.10

Rack travel in mm : 12.50
Tolerance mm : + 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance :  $\leftarrow$  0.30

Check

tolerance \*NW : + 0.50

Start of delivery blocking

\*NW after s.o.d. : 5.50 Tolerance : + 0.50

Check

tolerance \*NW : + 0.75

Barrel no. : 1

### BASIC SETTING

Rated speed rpm : 1250

\_\_\_\_\_

	41. 10	+ guide sleeve
Rack travel in m		+ travel mm : 3.33
Toterance mm	: ← 0.05	† Tolerance mm : +- 0.25
		. +
Del. quantity		+ Rated speed rpm : 1700
cm3/1000 strokes	: 155.0	🕂 guide sleeve
		+ travel mm : 11.50
Tolerance	and the state of t	+ Tolerance mm : + 0.50
cm3/1000 strokes	: +- 1.0	
Check tolerance	engeneration spirite in the construction of the control of the con	GUIDE SLEEVE POSITION
cm3/1000S.	: +- 4.0	1
tiis, 10000.	• • •••	Rated speed rpm : 1430
Spreed		T Nated Speed (pill) : 1450
•		T Rack travel in mm: 13.60
Tolerance	: 5.0	· · · · · · · · · · · · · · · · · · ·
cm3/1000 strokes	: 5.0	† Tolerance mm : + 1.30
<b>a</b> l		<b>†</b>
Check tolerance	2.2	
cm3/1000s.	: 9.0	+ FULL LOAD DELIVERY AT FULL LOAD STOP
		†
Rated speed rpm	: 400	+ Rated speed rpm : 1250
		+ Aneroid pressure
Rack travel in mm	n: 6.50	+ hPa : 1500
Tolerance mm	: +- 0.30	🕂 Del. quantity
Del. quantity		+ cm3/1000 strokes : 155.0
cm3/1000 strokes	: 20.0	† Tolerance
Tolerance		+ cm3/1000 strokes : + 1.0
cm3/1000 strokes	: ← 3.0	+ Check tolerance
Check tolerance		+ cm3/1000s. : +- 4.0
cm3/1000s.	: +- 5.0	Spreed
Spreed		+ Tolerance
Tolerance		- cm3/1000 strokes : 5.0
cm3/1000 strokes	: 7.0	Check tolerance
Check tolerance	. 7.0	+ cm3/1000s. : 9.0
cm3/1000s.	: 11.0	T (11137 1000) 9.0
CHS/ 10005.	: 11.0	Ť
		†
And acceptable of the	LIFATIAN NINO	CONTROL LEVED
(B) SETTING OF IN	DECITON FUMP	+ CONTROL LEVER
WITH GOVERNOR		<b>†</b>
		+ control lever
		+ position degree : 62.0
GUIDE SLEEVE TRAV	EL	tolerance degree : + 4.0
		<b>†</b>
Rated speed rpm	: 400	+ control lever
guide sleeve		+ position degree : 119.0
travel mm	: 1.39	+ tolerance degree : + 4.0
Tolerance mm	: +- 0.20	+
		+ RATED SPEED
Rated speed rpm	: 1314	+
guide sleeve		rack travel mm : 13.60
travel mm	: 7.65	Rated speed rpm : 1295
Tolerance mm	: ← 0.15	+ Tolerance 1/min : + 5
		1
Rated speed rpm	: 864	+ rack travel mm : 4.00
guide sleeve	. 557	+ Rated speed rpm : 1480
travel mm	: 4.76	+ Tolerance 1/min : +- 15
Tolerance mm	: + 0.25	10th disc (/mil)
interance into	. · · · · · · · · · · · · · · · · · · ·	Track travel mm : 0.50
Datad annad	: 550	+ Tolerance mm : +- 0.50
Rated speed rpm	: 550	
		+ Rated speed rpm : 1550

		+	Rated speed rpm	: 1250
		<del></del> ‡	Pressure hPa	: 275
LOW IDLE		†	rack travel mm Tolerance mm	: 11.80 : + 0.20
control lever		Ţ	Pressure hPa	
position degree tolerance degree	: 73.0 : + 4.0	+	rack travel mm Tolerance mm	: 13.80 : +- 0.05
control lever position degree	: 16.0	+	START CUT-OUT	
tolerance degree	: +- 4.0	‡	Rated speed rpm	: < 340
Testing:		+	Check speed 1/min	
Rated speed rpm	: 400_	<b>‡</b>	speed t/min	. \ 300
rack travel mm Tolerance mm	: 6.50 : + 0.10	+	FUEL DELIVERY CHA	NRACTERISTICS
Rated speed rpm	: 300	-	Aneroid pressure	
CRT mm min.	; > 8.50	‡	hPa Rated speed rpm	: 1500 : 750
			Del. quantity	
Rated speed rpm	: 450	<u> </u>	cm3/1000 strokes Tolerance	: 755.0
ODOUE CONTROL			cm3/1000 strokes	: +- 3.0
TORQUE CONTROL		‡	Check tolerance cm3/1000s.	: +- 6.0
Rated speed rpm		+	Spreed Tolerance	
rack travel mm Tolerance mm	: 14.60 : + 0.05	Ī	cm3/1000 strokes	
Rated speed rpm	• 750	<u> </u>	Check tolerance cm3/1000S.	: 12.0
rack travel mm	: 13.00	-		
Tolerance mm	: ← 0.10	‡	Aneroid pressure hPa	: -
Rated speed rpm	: 400 : 12.45	+	Rated speed rpm	: 500
rack travel mm Tolerance mm	: +- 0.15	‡	Del. quantity cm3/1000 strokes	: 79.0
			Tolerance cm3/1000 strokes	
ANEROID/ALTITUDE		<u> </u>	Check tolerance	
COMPENSATOR TEST		‡	cm3/1000s.	: +- 4.0
SETTING		†	BREAKAWAY	
Rated speed rpm			on the second of the	
Pressure hPa Pack travel mm		‡	Rack travel in mm Rated speed rpm	
olerance mm		+	Tolerance 1/min	
MEASUREMENT		‡		
Pressure hPa	:	<del>-</del>	STARTING FUEL DEL	IVERY
Rated speed rpm rack travel mm		1	Rated speed rpm	: 100
Tolerance man		<del>-</del>	Del. quantity	
		+	cm3/1000 strokes	: 210.0

Tolerance cm3/1000 strokes : +- 15.0 Check tolerance

cm3/1000s. : + 19.0

LOW IDLE

Rated speed rpm : 400 rack travel mm : 6.50 Tolerance mm : + 0.30 Del. quantity cm3/1000 strokes : 20.0

Tolerance cm3/1000 strokes : +- 3.0

cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000s. : +- 5.0

Spreed
Tolerance
cm3/1000 strokes : 7.0

Check tolerance

cm3/1000s. : 11.0

BOSCH INJ. PUMP TEST SPECIFICATIONS Note remarks Refer to Service Info for test and adjustment instructions. See microcard(s) W400/... : 13.10.95 Edition : ISO 4113 Test oil Combination No. : 0 402 744 801 Injection pump Pump designation : PES4P120A320RS7380 EP type number : 0 412 724 802 Governor Governer design. : RQV275...1200PA1232k Governer no. : 0 421 815 469 Cust. part No. : CCEP 5149A 66-237 Customer-spec. information Customer : RVI : MIDR 04-02-26 B4 Motor : 110.0 Power KW TEST BENCH REQUIREMENTS Inlet line : 3.2 Test oil inlet temp. °C : + 2.0 Tolerance °C Overflow valve : 2 417 413 071 Inlet press. bar : 2.5 Overflow quantity 95 min. L/h min. l/h : 95 Tolerance l/h :  $\leftarrow$  10.0 Test nozzle holde : 1 688 901 105 assembly

208.5

Outside diameter : 8.0 x inside diameter : 3.0 x length mm : 600 REMARKS (A) INJECTION PUMP SETTING VALUES Set equal delivery quant. per values \_\_\_\_\_ BEGINNING OF DELIVERY Test pressure bar : 26.0 Tolerance bar : + 1.0 Prestroke mm : 5.00 Tolerance mm : + 0.05 test only :  $\leftarrow$  0.10 Rack travel in mm : 11.00 Tolerance mm : + 0.50 Firing order : 1-3-4-2 Phasing : 0-90-180-270 Tolerance : **←** 0.30 Check tolerance "NW : +- 0.50 Start of delivery mark Barrel no. : 1 BASIC SETTING Rated speed rpm : 1200 Del. quantity cm3/1000 strokes : 236.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance : +- 4.0 cm3/1000s. Spreed

Test Lines : 1 680 750 089

Opening pressure

Tolerance bar : ← 1.5

Tolerance cm3/1000 strokes : 5.0	Tolerance mm : + 1.30
Check tolerance cm3/1000s. : 9.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Rated speed rpm : 325	Rated speed rpm : 1200 Aneroid pressure hPa : 1200
Rack travel in mm: -6.60 Tolerance mm: + 0.20 Del. quantity	Del. quantity cm3/1000 strokes : 236.0 Tolerance
cm3/1000 strokes : 40.0	cm3/1000 strokes : +- 1.0 Check tolerance
cm3/1000 strokes : + 2.0 + Check tolerance +	cm3/1000s. : +- 4.0 Spreed
cm3/1000S. : ∹- 6.0 + Spreed + Tolerance +	Tolerance cm3/1000 strokes : 5.0 Check tolerance
cm3/1000 strokes : 8.0 +	cm3/1000s. : 9.0
cm3/1000s. : 12.0	
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	CONTROL LEVER  control Lever  position degree : 299.0
GUIDE SLEEVE TRAVEL	tolerance degree : +- 4.8
Rated speed rpm : 325	RATED SPEED
guide steeve + travel mm : 1.52 +	rack travel mm : -1.00 Rated speed rpm : 1260
Tolerance mm : + 0.20	Toterance 1/min : + 5
Rated speed rpm : 1272 guide sleeve travel mm : 9.31 Tolerance mm : + 0.15	rack travel mm : -8.70 Rated speed rpm : 1385 Tolerance 1/min : + 15
Rated speed rpm : 894 guide sleeve	rack travel mm : -12.20 Tolerance mm : +- 0.50 Rated speed rpm : 1500
travel mm : 6.60 Tolerance mm : + 0.25	nacea speca / pm · / / / / / /
Rated speed rpm : 560 + guide sleeve +	LOW IDLE
travel mm : 4.01	
Tolerance mm : + 0.25	control lever position degree : 253.0
Rated speed rpm : 1650 guide sleeve	tolerance degree : + 4.0
travel mm : 13.50 Tolerance mm : + 0.50	Testing:
Toterance mm : + U.SU	Rated speed rpm : 325 rack travel mm : -6.60
GUIDE SLEEVE POSITION	rack travel mm : -6.60 Tolerance mm : +- 0.10
Rated speed rpm : 1482	Rated speed rpm : 200
Rack travel in mm: 11.70	CRT mm min. : < -4.60

Rated speed rpm	: 390	t Check tolerance cm3/1000s. : + 6.0
TORQUE CONTROL		Aneroid pressure
		Rated speed rpm : 500
Rated speed rpm	: 1200	+ Del. quantity + cm3/1000 strokes : 155.0
Rated speed rpm	: 700	+ Tolerance
rack travel mm	: -1.15	cm3/1000 strokes : + 1.0
Tolerance mm	: +- 0.10	- Check tolerance
Detail second sec	. 750	+ cm3/1000s. : +- 4.0
Rated speed rpm	: 37U -2 9N	
rack travel mm Tolerance mm	: +- 0.20	- BREAKAWAY
		<del> </del>
ANEROID/ALTITUDE		Rack travel in mm: -1.00
COMPENSATOR TEST		Rated speed rpm : 1260
		† Tolerance 1/min : +- 5
SETTING		‡
Daniel annual and	. 1200	CTARTING CUEL ACTIVITATI
Rated speed rpm Pressure hPa	1200	STARTING FUEL DELIVERY
7 1 C3501 C 711 a	. 1200	Rated speed rpm : 100
MEASUREMENT		+ Del. quantity
<b>b</b>		+ cm3/1000 strokes : 100.0
Pressure hPa Rated speed rpm		+ Tolerance + cm3/1000 strokes : +- 15.0
rack travel mm		Check tolerance
Tolerance mm		- cm3/1000s. : + 19.0
Dated amond non	. 1200	†
Rated speed rpm	: 1200	Į.
Pressure hPa		
rack travel mm	-3.60	+ LOW IDLE
Tolerance mm	: + 0.20	Rated speed rpm : 325
Pressure hPa	: 520	+ rack travel mm : -6.60
rack travel mm	-2.50	+ Tolerance mm : +- 0.20
Tolerance mm	: ← 0.05	- Del. quantity
		+ cm3/1000 strokes : 40.0
START CUT-OUT		
CIANI COI COI		Check tolerance
Rated speed rpm	: < 275	+ cm3/1000s. : + 6.0
Check	, nor	Spreed
speed 1/min	: < 285	Tolerance : 8.0
-		Check tolerance
FUEL DELIVERY CHA	ARACTERISTICS	cm3/1990s. : 12.0
Aneroid pressure		Ţ
h <sup>o</sup> a	: 1200	+
Rated speed rpm	: 700	†
Del. quantity	: 237.0	
cm3/1000 strokes Tolerance	. 251.0	End of test specification sheet
cm3/1000 strokes	: ← 3.0	LIM OF CEDE SPECIFICATION SHEET
Union Source of Chico	J - U - U	T.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 13.10.95 Test oil : ISO 4113

Combination No. : 0 402 746 995

Injection pump

Pump designation : FES6P12OA32ORS7343 EP type number : 0 412 726 915

ci cype ridissori

Governor design. : RQV300...1000PA1160K

Governer no. : 0 421 815 420

Cust. part No. : CCEP 5144A 66-232

Customer-spec. information

Customer : RVI

Motor : MIDR 062356 A/41

Power KW : 280.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp.  $^{\circ}$ C : 40 Tolerance  $^{\circ}$ C :  $\leftarrow$  2.0

Overflow valve : 2 417 413 071

Inlet press. bar : 2.5

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.50
Tolerance mm : + 0.05

test only :  $\div$  0.10

Rack travel in mm : 11.00 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance :  $\leftarrow$  0.30

Check

tolerance °NW : +- 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Del. quantity

cm3/1000 strokes : 350.0

Tolerance

cm3/1000 strokes :  $\leftarrow$  1.0

Check tolerance

cm3/1000s. : +- 4.0

Spreed Tolerance

7/1000

cm3/1000 strokes : 5.0

		1
Check tolerance cm3/1000s.	: 9.0	Rated speed rpm : 1300
Del. quantity		Rack travel in mm: 11.60 Tolerance mm: + 1.30
cm3/1000 strokes Tolerance	: 33.0	Total divenish , 1,30
cm3/1000 strokes Check tolerance	: + 2.5	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000s. Spreed	: +- 5.0	Rated speed rpm : 1000 Aneroid pressure
Tolerance cm3/1000 strokes	: 8.0	hPa : 1200  Del. quantity
Check tolerance cm3/1000s.	: 12.0	cm3/1000 strokes : 350.0 Tolerance
chio/ racos.	12.0	cm3/1000 strokes : + 1.0 Check tolerance
(B) SETTING OF IN WITH GOVERNOR	NJECTION PUMP	cm3/1000s. : + 4.0 Spreed Tolerance
GUIDE SLEEVE TRAV	/EL	cm3/1000 strokes : 5.0 Check tolerance
Rated speed rpm	: 300	cm3/1000s. : 9.0
guide sleeve travel mm	: 1.32	
Tolerance mm	: + 0.25	CONTROL LEVER
Rated speed rpm guide sleeve	: 1103	control lever position degree : 117.0
travel mm Tolerance mm	: 8.70 : + 0.25	tolerance degree : + 4.0
Rated speed rpm	: 823	RATED SPEED
guide sleeve travel mm	: 5.92	+ rack travel mm : -1.00 + Rated speed rpm : 1100
Tolerance mm	: +- 0.25	Tolerance 1/min : +- 5
Rated speed rpm guide sleeve	: 405	rack travel mm : -8.60 Rated speed rpm : 1210
travel mm Tolerance mm	: 2.43 : ~ 0.25	Tolerance 1/min : +- 15
Rated speed rpm		+ rack travel mm : -12.30 + Tolerance mm : + 0.50
guide sleeve travel mm	: 2.98	Rated speed rpm : 1300
Tolerance mm	: ÷ 0.25	
Rated speed rpm guide steeve	: 550	+ TOM IDTE
travel mm	: 3.66	†
Tolerance mm	: ← 0.25 : 1440	control lever position degree : 72.0 tolerance degree : +- 4.0
Rated speed rpm guide sleeve		+
travel mm Tolerance mm	: 13.50 : +- 0.50	Testing:
GUIDE SLEEVE POSI	TION	+ Rated speed rpm : 300 + rack travel mm : -7.80 + Tolerance mm : + 0.20

		1.
Rated speed rpm	: 200	Aneroid pressure
COT me may	: < -6.80	+ hPa : 1200 + Rated speed rpm : 600
CRT mm max.	. \ -9.60	+ Del. quantity
Rated speed rpm	: 390	+ cm3/1000 strokes : 381.0
		+ Tolerance
TORQUE CONTROL		
TORQUE CONTROL		- cm3/1000s. : + 6.0
Rated speed rpm	: 1000	+
Dakad amaad ama	. 700	Aneroid pressure
Rated speed rpm rack travel mm		hPa : - Rated speed rpm : 500
Tolerance mm		Del. quantity
		cm3/1000 strokes : 245.0
Rated speed rpm	: 800	+ Tolerance
rack travel mm		+ cm3/1000 strokes : +- 1.0
Tolerance mm	: 0.13	+ Check tolerance + cm3/1000s. : + 4.0
Rated speed rpm	: 350	
rack travel mm	: -1.70	
Tolerance mm		+ BREAKAWAY
ANEROID/ALTITUDE		Rack travel in mm: -1.00
COMPENSATOR TEST		+ Rated speed rpm : 1100
		+ Tolerance 1/min : +- 5
SETTING		İ
0E112140		
Rated speed rpm	: 1000	STARTING FUEL DELIVERY
Pressure hPa	: 1200	Datad aread area
MEASUREMENT		+ Rated speed rpm : 100 + rack travel mm : 20.25
HEASONEHEN		Tolerance mm : + 0.75
Pressure hPa	: -	∔ Del. quantity
Rated speed rpm		+ cm3/1000 strokes : 185.0
rack travel mm		+ Tolerance
Tolerance mm	: +- 0.30	+ cm3/1000 strokes : +- 15.0 + Check tolerance
Rated speed rpm	: 1000	+ cm3/1000s. : + 19.0
The second secon		+
Pressure hPa	: 320	+
rack travel non	: -2.80 : +- 0.15	†
Tolerance mm	0.15	LOW IDLE
Pressure hPa	: 520	+
rack travel mm	: -1.70	Del. quantity
Tolerance mm	: <b>←</b> 0.05	- cm3/1000 strokes : 33.0
		Tolerance + cm3/1000 strokes : + 2.5
START CUT-OUT		Check tolerance
<del> </del>		+ cm3/1000s. : +- 5.0
Rated speed rpm	: < 225	Spreed
Check	2/5	† Tolerance + cm3/1000 strokes : 8.0
speed 1/min	: < 245	t cm3/1000 strokes : 8.0 Check tolerance
FUEL DELIVERY CHA	ARACTERISTICS	+

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 25,10,95 Edition : ISO 4113 Test oil

Combination No. : 0 401 876 794

Injection pump

Pump designation : FE6P120A320RS3206-3

EP type number : 0 411 826 809

Governor

Governer design. : RSV250...1100P1A560

: -2

: 0 421 833 471 Governer no.

Cust. part No. : 865560-PG6 v. 12/94

Customer-spec. information Customer : PENTA

: TAD 730 P Motor

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 Tolerance °C 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 019 assembly

Opening pressure

208.5 Tolerance bar : **←** 1.5

: 1 680 750 075 Test lines

Outside diameter : 8.0

x inside diameter: 2.5 x Length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

3.65 Prestroke mm : ← 0.05 Tolerance mm

: + 0.10test only

Rack travel in mm: 10.50 Tolerance mm: +-1.50

: 1-5-3-6-2-Firing order

: 0-60-120-180-240 Phasing

: -300

Tolerance : + 0.30

Check

tolerance °NW : + 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm: 9.45 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 197.0

Tolerance

cm3/1000 strokes : +-1.0

Check tolerance

cm3/1000s. : +--4.0

+	tolerance degree : +- 4.0
Spreed Tolerance cm3/1000 strokes : 5.0	RATED SPEED
Check tolerance	rack travel mm : 8.45 Rated speed rpm : 1145
cm3/1000s. : 9.0	Tolerance 1/min : +- 5
Rated speed rpm : 250	rack travel mm : 4.00 Rated speed rpm : 1195
Rack travel in mm: 5.20 † Tolerance mm: + 0.20 †	Tolerance 1/min : +- 15
Del. quantity cm3/1000 strokes : 20.0	rack travel mm : 0.85 Tolerance mm : +- 0.55 Rated speed rpm : 1300
Tolerance + 3.0 + Check tolerance +	Rated speed rpm : 1300
cm3/1000s. : + 6.0	LOW IDLE
Tolerance cm3/1000 strokes : 5.0	SON SOCI
Check tolerance cm3/1000s. : 7.0	control lever position degree : 82.0 tolerance degree : + 4.0
(B) SETTING OF INJECTION PUMP	Testing:
WITH GOVERNOR	Rated speed rpm : 250 rack travel mm : 5.20 Tolerance mm : + 0.10
GUIDE SLEEVE POSITION	
governor spring pre-tension click setting x : 4.50	rack travel mm : 2.00 Rated speed rpm : 330 Tolerance 1/min : + 30
	TORQUE CONTROL
FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 700 +	Rated speed rpm : 700 rack travel mm : 9.45
Aneroid pressure	Tolerance mm : + 0.05
Del. quantity cm3/1000 strokes : 197.0 +	
Tolerance cm3/1000 strokes : + 1.0	DDC6VANAV
Check tolerance cm3/1000S. : +- 4.0 +- Spreed	BREAKAWAY
Tolerance cm3/1000 strokes : 5.0	Rack travel in mm : 8.45 Rated speed rpm : 1145
Check tolerance + cm3/1000s. : 9.0 +	Tolerance 1/min : +- 5
+	
CONTROL LEVER	
control lever position degree : 119.0	LOW IDLE

Rated speed rpm rack travel mm	: 250 : 5.20
Tolerance mm	: +- 0.20
Del. quantity cm3/1000 strokes Tolerance	: 20.0
cm3/1000 strokes	: <del>←</del> 3.0
Check tolerance	
cm3/1000S.	: ← 6.0
Spreed Tolerance	
cm3/1000 strokes Check tolerance	: 5.0
cm3/1000s.	: 7.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 20.10.95 : ISO 4113

Combination No. : 0 402 046 864

Injection pump

Pump designation : PES6P120A320RS3337

EP type number : 0 412 026 772

Governor

Governer design. : RQV300...1250PA1149

: -1K

Governer no.

: 0 421 815 421

Cust. part No. : CCEP 5142A 66-219

Customer-spec. information

Customer

: RVI

Motor

: MIDR 06-02-26 W4

Power KW

: 155.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temo. °C

40

Tolerance °C

: +- 2.0

Overflow valve : 2 417 413 084

Inlet press. bar : 2.5

Test nozzle holde

assembly

: 1 688 901 105

Opening pressure

208.5

Tolerance bar :  $\leftarrow$  1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter :

3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : + 1.0

Prestroke mm :

: +- 0.05

test only :  $\leftarrow$  0.10

Rack travel in mm: 13.00

Tolerance nn:  $\leftarrow$  1.50

Tolerance mm

4.15

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance

: +- 0.30

Check

tolerance \*NW : +- 0.50

Start of delivery mark

"NW before FB : 0.40

Barrel no. :

1

BASIC SETTING

Rated speed rpm : 1250

Del. quantity

cm3/1000 strokes : 202.5

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s.

: +- 4.0

bar

		+	
Spreed	Military and the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the se	FILL 1 CAP COT THE	NV AT PULL 1040 0707
Tolerance cm3/1000 strokes	: 5.0	T FULL LOAD DELIVER	RY AT FULL LOAD STOP
CHIDY 1000 SETORES		Rated speed rpm	: 1250
Check tolerance		+ Aneroid pressure	
cm3/1000s.	: 9.0	+ hPa	: 1000
Del. quantity		+ Del. quantity + cm3/1000 strokes	: 202.5
cm3/1000 strakes	: 27.5	+ Tolerance	. 202.5
Tolerance	2	+ cm3/1000 strokes	: +- 1.0
cm3/1000 strokes	: +- 2.0	+ Check tolerance	
Check tolerance cm3/1000s.	: + 5.0	+ cm3/1000s.	: +- 4.0
Spreed	; + 5.0	+ Spreed + Tolerance	
Tolerance		+ cm3/1000 strokes	: 5.0
cm3/1000 strokes	: 8.0	+ Check tolerance	
Check tolerance	42.0	+ cm3/1000s.	: 9.0
cm3/1000s.	: 12.0	1	
		I	
(B) SETTING OF IN	NJECTION PUMP	+ CONTROL LEVER	
WITH GOVERNOR		+	
		+ control lever	201.0
GUIDE SLEEVE TRAN	/FI	+ position degree + tolerance degree	
GOIDE SECENT INAL	/CC	- Coter ance degree	. / 4.0
Rated speed rpm	: 300	+ RATED SPEED	
guide sleeve		+	
travel mm	: 1.31	f rack travel mm	: -1.00
Tolerance mm	: +- 0.20	+ Rated speed rpm + Tolerance 1/min	
Rated speed rpm	: 1328	1 /oce: ance //min	• •
guide sleeve		rack travel man	: -9.20
travel mm	: 9.98	+ Rated speed rpm	
Tolerance mm	: ← 0.15	+ Tolerance 1/min	: ← 15
Rated speed rpm	: 876	T rack travel mm	: -12.65
guide sleeve	. 0.0	Tolerance mm	: ← 0.50
travel mm	: 6.02	Rated speed rpm	
Tolerance mm	: +- 0.25	+	
Dariasi anasal me-	: 510		
Rated speed rpm guide sleeve	. 510	LOW IDLE	
travel mm	: 3.59	+ LUN IVLL	
Tolerance mm		+	
_		+ control lever	n
Rated speed rpm	: 1600	+ position degree	
guide sleeve travel mm	: 13.50	tolerance degree	: 4.0
Tolerance mm	: + 0.50	T Testing:	
TO COLORDO MAI	. 0.70	+	
		+ Rated speed rpm	: 308
GUIDE SLEEVE POST	TION	+ rack travel mm	: -6.40
Datad speed spe	• 1/00	† Tolerance mm	: +- 0.20
Rated speed rpm	· (4U)	Rated speed rpm	: 200
Rack travel in mm	: 12.15	Autou opeca (pili	. 200
Tolerance mm		+ CRT mm max.	: < -5.60
		+	

Rated speed rpm		Check tolerance cm3/1000s. : +- 6.0
TORQUE CONTROL	: 1250 : 850 : -2.15 : + 0.15	Aneroid pressure hPa : -
Rated speed rpm	: 1250	Rated speed rpm : 1250 Del. quantity
Rated speed rpm	: 850	cm3/1000 strokes : 138.5
rack travel mm	: -2.15	Tolerance
Tolerance mm	: + 0.15	cm3/1000 strokes : $+$ 1.0
	+	Check tolerance
Rated speed rpm	÷ 550 +	cm3/1000s. : +- 4.0
rack travel mm Tolerance mm	: -2.20 +	
Toterance mm	: ← 0.30 +	BREAKAWAY
ANEROID/ALTITUDE		
COMPENSATOR TEST		Rack travel in mm : -1.00
	+	Rated speed rpm : 1312
	+	Tolerance 1/min : + 5
SETTING	‡	
Rated speed rpm	: 1000	
Pressure hPa	: 1000	STARTING FUEL DELIVERY
rack travel mm	: -1.40 +	
	+	Rated speed rpm : 100
MEASUREMENT	<u>†</u>	Del. quantity
D	<u> </u>	cm3/1000 strokes : 102.0
Pressure hPa	1000	Tolerance cm3/1000 strokes : +- 15.0
Rated speed rpm	: -3.70	Check tolerance
rack travel mm Tolerance mm	: + 0.20	cm3/1000s. : +- 19.0
	+	EIB/10003
Rated speed rpm	+	
Pressure hPa		
rack travel mm	: -2.90 +	LOW IDLE
Tolerance mm	: + 0.10 +	
	+	Del. quantity
Pressure hPa		cm3/1000 strokes : 27.5
rack travel mm		Tolerance cm3/1000 strokes : ← 2.0
Tolerance mm	. — 0.03	Check tolerance
		cm3/1000s. : +- 5.0
START CUT-OUT	1	Spreed
	+	Tolerance
Rated speed rpm	: < 225	cm3/1000 strokes : 8.0
Check	+	Check tolerance
speed 1/min	: < 245	cm3/1000s. : 12.0
FUEL DELIVERY CHA	ARACTERISTICS +	
Aneroid pressure	‡	
	: 1000 +	
hPa		End of test specification sheet
hPa Rated speed rpm Del. quantity	: 850	End of test specification sheet
hPa Rated speed rpm Del. quantity cm3/1000 strokes	: 850	End of test specification sheet
hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: 850 : 141.0	End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS
Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 19.10.95 Test oil : ISO 4113

Combination No. : 0 402 046 874

Injection pump

Pump designation : FES6P120A720RS3360 EP type number : 0 412 026 785

Governor

Governer design. : RQV300...1100PA1254K

Governer no. : 0 421 815 485

Cust. part No. :

Customer—spec. information Customer : IVECO-UNIC Motor : 8360.46.4107

Power KW : 198.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 2 417 413 034

Inlet press. bar : 2.5

Overflow quantity

min. L/h : 105 Tolerance L/h : +- 10.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.15 Tolerance mm : + 0.05

test only :  $\leftarrow$  0.10

Rack travel in mm : 13.50 Tolerance mm : + 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance :  $\leftarrow$  0.30

Check

tolerance  $^{\circ}NW$  : + 0.50

Start of delivery mark

Check

tolerance \*NW : + 0.40

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

. . . . . . .

1	
0-1 4-2 11 12 12 12 13	guide sleeve
Rack travel in mm: 13.45	travel mm : 2.79 Tolerance mm : +- 0.25
Tolerance mm : +- 0.05	Tolerance mm : +- 0.25
De la maracha de	Data d annual 1150
Del. quantity	Rated speed rpm : 1450
cm3/1000 strokes : 174.0	guide sleeve
	travel mm : 13.50
Tolerance	Tolerance mm : +- 0.50
cm3/1000 strokes : + 1.0 +	
Charle de la company	CHARE CLEENE DOCTATON
Check tolerance	GUIDE SLEEVE POSITION
cm3/1000s. : +- 4.0	Data diamand num
Cancari	Rated speed rpm : 1305
Spreed	Dock towns in man 12 /5
Tolerance F. S.	Rack travel in mm: 12.45
cm3/1000 strokes : 5.0 +	Tolerance mm : $\leftarrow$ 2.70
Check tolerance	
714707	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000s. : 9.0	FOLL LOAD DELIVERY AT FULL LUAD STOP
Rated speed rom : 300	Rated speed rpm : 1100
Rated speed rpm : 300	Rated speed rpm : 1100 Aneroid pressure
7.50	
Rack travel in mm: 7.50	hPa : 1200
Tolerance mm : $\leftarrow$ 0.20	Del. quantity
Del. quantity	cm3/1000 strokes : 174.0
cm3/1000 strokes : 25.0 +	Tolerance
Tolerance	cm3/1000 strokes : + 1.0
cm3/1000 strokes : + 3.0 +	Check tolerance
Check tolerance	cm3/1000s. : +- 4.0
cm3/1000s. : $\leftarrow$ 6.0 $+$	Spreed
Spreed	Tolerance
Tolerance +	cm3/1000 strokes : 5.0
cm3/1000 strokes : 0.0 +	Check tolerance
Check tolerance +	cm3/1000s. : 9.0
cm3/1000s. : 12.0 +	
+	
+	
(B) SETTING OF INJECTION PUMP	CONTROL LEVER
WITH GOVERNOR +	
+	control lever
	position degree : 117.0
GUIDE SLEEVE TRAVEL	tolerance degree : +- 4.0
lacksquare	
Rated speed rpm : 325	RATED SPEED
guide sleeve	
travel mm : 2.83 +	rack travel mm : 12.40
Tolerance mm : + 0.20 +	Rated speed rpm : 1145
+	Tolerance 1/min : + 5
Rated speed rpm : 1185 +	
guide sleeve	rack travel mm : 4.00
travel mm : 9.40 +	Rated speed rpm : 1260
Tolerance mm : + 0.15 +	Tolerance 1/min : + 15
+	
Rated speed rpm : 680 +	rack travel mm : 0.50
guide sleeve +	Tolerance mm : + 0.50
travel mm : 4.45	Rated speed rpm : 1400
Tolerance mm : + 0.25	· · ·
1	
Rated speed rpm : 300	
<b>)</b>	LAU TALE

LOW IDLE

		† Tol	erance nm	: ÷- 0.05
control lever position degree tolerance degree		+ rac	ssure hPa k travel mm erance mm	: 340 : 11.30 : + 0.20
Testing:		+ STA	RT CUT-OUT	
Rated speed rpm rack travel mm Tolerance mm	: 6.40	Rat. Che	ed speed rpm	
Rated speed rpm	: 225	Spe	ed (7)	. \ 243
CRT mm min.	: > 7.90	FUE	L DELIVERY CHA	RACTERISTICS
Rated speed rpm	: 330	+ hPa	roid pressure	: 1200 : 750
TORQUE CONTROL		+ Del	. quantity /1000 strokes	
Rated speed rpm rack travel mm Tolerance mm	: 13.45	+ cm3. + Che	erance /1000 strokes ck tolerance /1000s.	: + 3.0 : + 6.0
Rated speed rpm rack travel mm Tolerance mm	: 13.60	<b>+</b>	roid pressure	: 1200
Rated speed rpm rack travel mm Tolerance mm	: 12.80	+ Del cm3	ed speed rpm . quantity /1000 strokes erance	
Rated speed rpm rack travel man		+ cm3	/1000 strokes ck tolerance	: <del>←</del> 3.0
rack travel mm Tolerance mm	: 12.60 : + 0.20		/1000S.	: + 6.0
				: -
ANEROID/ALTITUDE COMPENSATOR TEST		+ Del.	ed speed rpm . quantity /1000 strokes	
SETTING		+ Tole	erance /1000 strokes	
Rated speed rpm Pressure hPa	: 1200		ck tolerance /1000s.	: + 4.0
rack travel mm Tolerance mm	: 13.45 : + 0.05	+ BREA	AKAWAY	
MEASUREMENT		†	c travel in mm	. 12 /.0
Pressure hPa Rated speed rpm rack travel mm Tolerance mm		+ Rate	ed speed rpm erance 1/min	: 1145
Rated speed rpm	: 1100	STAR	RTING FUEL DEL	IVERY
Pressure hPa rack travel mm	: 640 : 12.75		ed speed rpm c travel mm	: 100 : 12.20

Tolerance mm Del. quantity	: +-	0.20
cm3/1000 strokes	:	85.0
Tolerance cm3/1000 strokes Check tolerance	: +-	15.0
cm3/1000s.	: +-	19.0

# LOW IDLE

Tolerance mm	: -	300 7.50 0.20	
Del. quantity cm3/1000 strokes Tolerance	:	25.0	
cm3/1000 strokes	: +-	3.0	
Check tolerance cm3/1000s.	: +-	6.0	
Spreed Tolerance			
cm3/1000 strokes Check tolerance	•	8.0	
cm3/1000s.	:	12.0	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 23.10.95 Test oil : ISO 4113

Combination No. : 0 402 066 708

Injection pump

Pump designation : PES6P12OA12ORS3358 EP type number : 0 412 026 784

Governor

Governer design. : RSV475...1150P2A619

Governer no. : 0 421 833 522

Cust. part No. : 3283019

Customer-spec. information

Customer : CDC

Motor : 68TA-590 ELITE

Power KW : 136.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp.  $^{\circ}$ C : 40 Tolerance  $^{\circ}$ C : + 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5

Test nozzle hoide

assembly : 1 688 901 103

Opening pressure

bar : 208.5Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 2.85
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

4

Phasing : 0-60-120-180-240

: -300 rance : +- 0.30

Tolerance : +- Check

tolerance °NW : + 0.50

Start of delivery blocking

\*NW after s.o.d. : 6.75 Tolerance : + 0.50

Check

tolerance \*NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 10.80 Tolerance mm : +- 0.05

Cm3/1000 strokes : + 1.0   Control Lever	_ ,		•	
Check tolerance cm3/1000s	Tolerance cm3/1000 strokes	: +- 1.0		• 105.0
Spreed		: +- 3.0	tolerance degree	: + 4.0
Tolerance cm3/1000 strokes : 4.0			RATED SPEED	
Check tolerance cm3/1000S.   3.7.5   rack travel mm   3.4.00   Rated speed rpm   1290   Tolerance 1/min   3.4.00   Rated speed rpm   1290   Tolerance 1/min   3.4.00   Tolerance 1/min   3.4.00   Tolerance mm   3.85   Tolerance mm   3.85   Tolerance mm   3.85   Tolerance mm   3.85   Tolerance mm   3.85   Tolerance mm   3.80   Tolerance mm   3.80   Tolerance mm   3.80   Tolerance cm3/1000 strokes   4.5   Spreed   Tolerance cm3/1000 strokes   6.0   Tolerance degree   87.0   Tolerance degree   4.0   Tolerance degree   4.0   Tolerance degree   4.0   Tolerance degree   4.0   Tolerance degree   4.0   Tolerance degree   4.0   Tolerance mm   5.60   Tolerance mm   5.60   Tolerance mm   5.60   Tolerance mm   5.60   Tolerance mm   5.00   Tolerance 1/min   5.70   Tolerance 1/min   5.70   Tolerance 1/min   5.70   Tolerance 1/min   5.70   Tolerance 1/min   5.70   Tolerance 1/min   5.70   Tolerance mm	Tolerance	: 4.0	rack travel mm Rated speed rpm Tolerance 1/min	: 1195
Rated speed rpm : 475  Rack travel in mm : 5.60 Tolerance mm : + 0.30 Del. quantity cm3/1000 strokes : 21.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. Spreed Tolerance cm3/1000s. Spreed Tolerance cm3/1000s. Spreed Tolerance cm3/1000s. Spreed Tolerance cm3/1000s. Spreed Tolerance cm3/1000s. Spreed Tolerance cm3/1000s. Spreed Tolerance cm3/1000s. Spreed Tolerance cm3/1000s. Spreed Tolerance cm3/1000s. Spreed Tolerance cm3/1000s. Spreed Tolerance cm3/1000s. Spreed Tolerance Tolerance Spreed Tolerance Tolerance Spreed Tolerance Tolerance Tolerance Spreed Tolerance		: 7.5	rack travel mm	: 4.00
Tolerance mm : → 0.30  Del, quantity cm3/1000 strokes : 21.0  Tolerance cm3/1000 strokes : → 2.0  Check tolerance cm3/1000 strokes : ← 4.5  Spreed  Tolerance cm3/1000 strokes : ← 4.5  Spreed  Tolerance cm3/1000 strokes : ← 6.0  Check tolerance cm3/1000 strokes : ← 6.0  Check tolerance cm3/1000 strokes : ← 6.0  GUIDE SLEEVE POSITION  GUIDE SLEEVE POSITION  GUIDE SLEEVE POSITION  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1150  Rated speed rpm : 10.80  Tolerance mm : ← 0.05  Rated speed rpm : 10.80  Tolerance mm : ← 0.10  Rated speed rpm : 750  Rated speed rpm : 10.80  Tolerance mm : ← 0.10  Rated speed rpm : 750  Rated speed rpm : 750  Rated speed rpm : 10.80  Tolerance mm : ← 0.10  Rated speed rpm : 750  Rated speed rpm : 500	Rated speed rpm	: 475	Tolerance 1/min	: + 15 : + 15
cm3/1000 strokes : 21.0       Tolerance         cm3/1000 strokes : + 2.0       LOW IDLE         Check tolerance       control lever         cm3/1000 strokes : 6.0       control lever         Check tolerance       tolerance degree : + 4.0         cm3/1000s. : 9.0       Testing:         (B) SETTING OF INJECTION PUMP       Rated speed rpm : 5.60         WITH GOVERNOR       Tack travel mm : 5.60         GUIDE SLEEVE POSITION       Rated speed rpm : 570         governor spring       rack travel mm : 2.00         Rated speed rpm : 570       Tolerance 1/min : + 30         FULL LOAD DELIVERY AT FULL LOAD STOP       Rated speed rpm : 1150         Rated speed rpm : 1500       Rated speed rpm : 750         Aneroid pressure       Rated speed rpm : 10.80         Tolerance       Tolerance mm : + 0.05         Rated speed rpm : 750       rack travel mm : 10.80         Tolerance cm3/1000 strokes : + 1.0       ANEROID/ALTITUDE         Check tolerance       Cm3/1000 strokes : 4.0	Tolerance mm		Tolerance mm	: +- 0.55
Check tolerance cm3/1000s.	cm3/1000 strokes Tolerance	-		
Spreed   Tolerance   Control lever   Con3/1000 strokes : 6.0   Check tolerance   Cm3/1000s. : 9.0   Testing:			- LOW IDLE	
cm3/1000 strokes : 6.0       bosition degree : 87.0         Check tolerance cm3/1000s. : 9.0       tolerance degree : + 4.0         Testing:       Testing:         (B) SETTING OF INJECTION PUMP       Rated speed rpm : 475 rack travel mm : 5.60 Tolerance mm : + 0.10         GUIDE SLEEVE POSITION       Rated speed rpm : 570 Tolerance 1/min : + 30         GOVERNOR       TORQUE CONTROL         Rated speed rpm : 570 Tolerance 1/min : + 30       Tolerance 1/min : + 0.05         Rated speed rpm : 1150 rack travel mm : 10.80 Tolerance mm : + 0.05       Rated speed rpm : 750 rack travel mm : 10.80 Tolerance mm : + 0.10         Tolerance cm3/1000 strokes : + 1.0 check tolerance cm3/1000 strokes : 4.0 Check tolerance cm3/1000 strokes : 500 check tolerance cm3/1000 strokes : 500 check tolerance cm3/1000 strokes : 500 check tolerance cm3/1000 strokes : 500 check tolerance check tolerance cm3/1000 check tolerance check tolerance check tolerance check tol	Spreed	: +- 4.5		
Cm3/1000S.       : 9.0         Testing:         (B) SETTING OF INJECTION PUMP       Rated speed rpm : 475         WITH GOVERNOR       : - 0.10         GUIDE SLEEVE POSITION       rack travel mm : 2.00         Rated speed rpm : 570       Tolerance 1/min : + 30         governor spring pre-tension click setting x : 4.75       TORQUE CONTROL         Rated speed rpm : 1150 rack travel mm : 10.80 Tolerance mm : + 0.05         Rated speed rpm : 1500 rack travel mm : 10.80 Tolerance mm : + 0.10         Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000 strokes : + 3.0       ANEROID/ALTITUDE COMPENSATOR TEST         Tolerance cm3/1000 strokes : 4.0 Check tolerance cm3/1000 strokes : 4.0       SETTING         Rated speed rpm : 500       SETTING         Rated speed rpm : 750 rack travel mm : 500	cm3/1000 strokes	: 6.0	- position degree	
(B) SETTING OF INJECTION PUMP WITH GOVERNOR  GUIDE SLEEVE POSITION  GUIDE SLEEVE POSITION  GUIDE SLEEVE POSITION  GUIDE SLEEVE POSITION  GUIDE SLEEVE POSITION  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1150  Rated speed rpm : 1150  Rated speed rpm : 1150  Rated speed rpm : 1500  Rated speed rpm : 750  Rated speed rpm : 750  Rated speed rpm : 10.80  Tolerance mm : 750  Rated speed rpm : 10.80  Tolerance mm : 10.80  Tolerance mm : 10.80  Tolerance mm : 10.80  Tolerance mm : 10.80  Tolerance mm : 10.80  Tolerance mm : 50.80  Tolerance mm : 50.80  Tolerance mm : 50.80  Rated speed rpm : 750  Rated speed rpm : 750  Rated speed rpm : 750  Rated speed rpm : 750  Rated speed rpm : 750  Rated speed rpm : 750  Rated speed rpm : 50.80  Tolerance mm : 10.80  Tolerance mm : 50.80		: 9.0	- tolerance degree	: +- 4.0
WITH GOVERNOR    rack travel mm : 5.60     Tolerance mm : \( \lefta \) .010     rack travel mm : 2.00     Rated speed rpm : 570     Tolerance 1/min : \( \lefta \) .30     governor spring     pre-tension     click setting x : 4.75     FULL LOAD DELIVERY AT FULL LOAD STOP     Rated speed rpm : 1150     Rated speed rpm : 1150     Aneroid pressure     hPa : 1500     Tolerance mm : \( \lefta \) .05     Rated speed rpm : 750     rack travel mm : 10.80     Tolerance mm : \( \lefta \) .010     T			- Testing:	
GUIDE SLEEVE POSITION  Governor spring pre-tension click setting x : 4.75  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1150  Rated speed rpm : 10.80 Tolerance mm : + 0.05  Rated speed rpm : 1500  Aneroid pressure hPa : 1500 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000 strokes : 4.0 Check tolerance cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. : 7.5  Rated speed rpm : 570 Tolerance mm : + 0.05  Rated speed rpm : 750 rack travel mm : 10.80 Tolerance mm : + 0.10  ANEROID/ALTITUDE COMPENSATOR TEST  SETTING  Rated speed rpm : 500		ECTION PUMP -	- Rated speed rpm - rack travel mm - Tolerance mm	: 475 : 5.60 : ← 0.10
governor spring pre-tension click setting x : 4.75  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1150 Aneroid pressure hPa : 1500 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000 strokes : 4.0	GUIDE SLEEVE POSIT	TION -	<ul> <li>Rated speed rpm</li> </ul>	: 570
Click setting x : 4.75  TORQUE CONTROL  Rated speed rpm : 1150  Rated speed rpm : 10.80  Tolerance mm : + 0.05  Rated speed rpm : 1500  Aneroid pressure hPa : 1500  Tolerance cm3/1000 strokes : + 1.0  Check tolerance cm3/1000 strokes : 4.0  Check tolerance cm3/1000 strokes : 4.0  Check tolerance cm3/1000 strokes : 4.0  Check tolerance cm3/1000 strokes : 4.0  Check tolerance cm3/1000 strokes : 4.0  Check tolerance cm3/1000 strokes : 4.0  Rated speed rpm : 1500  Rated speed rpm : 750  Rated speed rpm : 0.10  SETTING  SETTING  Rated speed rpm : 500			- rocerance minit	. += 30
FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1150  Aneroid pressure  hPa : 1500		: 4.75	TORQUE CONTROL	
Aneroid pressure hPa : 1500		-	- rack travel mm	: 10.80
Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 ANEROID/ALTITUDE COMPENSATOR TEST  Tolerance cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. : 7.5  Rated speed rpm : 500	Aneroid pressure	-		
Check tolerance cm3/1000s. : + 3.0  Spreed Tolerance cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. : 7.5  Rated speed rpm : 500	Tolerance	4		
Spreed COMPENSATOR TEST  Tolerance cm3/1000 strokes : 4.0 Check tolerance cm3/1000S. : 7.5  Rated speed rpm : 500				
cm3/1000 strokes : 4.0 Check tolerance	Spreed	: +- 3.0		
cm3/1000S. : 7.5 + Rated speed rpm : 500	cm3/1000 strokes	: 4.0	SETTING	
+ Rated speed rpm : 500		: 7.5	-	
			Pressure hPa	: 1500
CONTROL LEVER Tolerance mm : + 0.05	CONTROL LEVER			

#### **MEASUREMENT**

Pressure hPa 500 Rated speed rom rack travel mm 8.60 Tolerance mm : +- 0.20

Rated speed rom 500

900 Pressure hPa 10.20 rack travel mm Tolerance mm : ← 0.20

600 Pressure hPa : 9.15 rack travel mm Tolerance mm : ← 0.05

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hРа 1500 750 Rated speed rpm Del. quantity cm3/1000 strokes : 151.0 Tolerance

cm3/1000 strokes : +-2.0 Check tolerance

cm3/1000s. 4.0 Spreed

Tolerance

cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s. 12.0

Aneroid pressure

hPa 500 Rated speed rpm

Del. quantity cm3/1000 strokes :

Tolerance 2.0

110.0

cm3/1000 strokes : +-

Check tolerance cm3/1000s. 4.0

#### BREAKAWAY

Rack travel in mm : 9.80 Rated speed rpm : 1195 Tolerance 1/min

#### STARTING FUEL DELIVERY

Rated speed rpm : 100

**NO8** 

rack travel mm	:		20.25
Tolerance mm	:	<del></del>	0.75
Del. quantity			
cm3/1000 strokes	:		100.0
Tolerance			
cm3/1000 strokes	:	<del></del>	20.0
Check tolerance			
cm3/1000s.	:	+	25.0

#### LOW IDLE

Rated speed rpm 475 rack travel mm 5.60 Tolerance mm 0.30Del. quantity 21.0 cm3/1000 strokes : Tolerance cm3/1000 strokes 2.0 Check tolerance cm3/1000s. 4.5 : +-Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. 9.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 20.10.95 Test oil : ISO 4113

Combination No. : 0 402 646 623

Injection pump

Pump designation : PE6P12OA32ORS7288

: -10

EP type number : 0 412 626 918

Governor

Governer design. : RQV250...900PA1069

: -1

Governer no. : 0 421 814 070

Cust. part No. : 866141 PO4 v. 10/94

Customer—spec. information Customer : PENTA Motor : TAD 1030P

#### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration

damper

(RoBo diaphragm) : 4.2

Test oil inlet

temp.  $^{\circ}$ C : 40 Tolerance  $^{\circ}$ C : + 2.0

Overflow valve : 1 457 413 010

Inlet press. bar : 2.5
Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test Lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0
x length mm : 600

#### REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

# BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 3.45
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance :  $\leftarrow$  0.30

Check

tolerance "NW : +- 0.75

Start of delivery mark

Barrel no. : 1

#### BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.45
Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 290.0

		L
Tolerance cm3/1000 strokes	: + 1.0	Rack travel in mm : 9.00 Tolerance mm : +- 3.00
Check tolerance cm3/1000s.	: +- 4.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Spreed Tolerance		Rated speed rpm : 700 Aneroid pressure
cm3/1000 strokes	: 6.0	hPa : 1500 Del. quantity
Check tolerance cm3/1000s.	: 10.0	- cm3/1000 strokes : 290.0 - Tolerance - cm3/1000 strokes : +- 1.0
(B) SETTING OF I	NJECTION PUMP	- Check tolerance - cm3/1000s. : +- 4.0
WITH GOVERNOR		- Spreed - Tolerance
GUIDE SLEEVE TRAN	VEL	- cm3/1000 strokes : 6.0 - Check tolerance
Rated speed rpm guide sleeve	: 250	- cm3/1080s. : 10.0
travel mm	: 1.12	
Tolerance mm	: + 0.25	- CONTROL LEVER
Rated speed rpm	: 949	- control lever
guide sleeve	+	position degree : 119.0
travel mm	: 7.39	tolerance degree : + 4.0
Tolerance mm	: + 0.25 <sup>1</sup>	
	1	- RATED SPEED
Rated speed rpm	: 657	
guide steeve	+	rack travel mme : 12.45
travel mm	: 5.07 <del>}</del>	Rated speed rpm : 935
Tolerance mm	: + 0.25	Tolerance 1/min : +- 5
Rated speed rpm	: 315	rack travel mm : 4.00
guide sleeve	1	Rated speed rpm : 1075
travel mm	: 1.98	Tolerance 1/min : + 15
Tolerance mm	: + 0.25	
	+	rack travel mm : 0.50
Rated speed rpm	: 365 +	Tolerance mm : $\leftarrow$ 0.50
guide sleeve	+	Rated speed rpm : 1150
travel mm	: 2.63	•
Tolerance mm	: + 0.25	
Rated speed rpm guide sleeve	: 420	LOW IDLE
travel mm	: 3.17	
Tolerance mm	: + 0.25	control Lever
Rated speed rpm guide sleeve	: 1290	position degree : 80.0 tolerance degree : +- 4.0
travel mm	: 11.50	Testing:
Tolerance mm	: + 0.50	· coungs
LOCAL GLICA UMB	1	Rated speed rpm : 250
		rack travel mm : 7.70
GUIDE SLEEVE POSI	TION	Tolerance mm : + 0.30
Rated speed rpm	: 1150	Rated speed rpm : 150

CRT mm min.

: > 9.00

Rated speed rom

350

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

500

Rated speed rpm Pressure hPa

1500 rack travel mm 13.45

Tolerance mm : +- 0.05

**MEASUREMENT** 

Pressure hPa

500 Rated speed rpm

10.00 rack travel mm

Tolerance mm : +- 0.10

Rated speed rpm 500

Pressure hPa 200

rack travel man 10.30

Tolerance mm : + 0.10

Pressure hPa 1090

rack travel mm 13.15

: + 0.05Tolerance mm

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa

700 Rated speed rpm

Del. quantity

cm3/1000 strokes : 176.0

Tolerance

cm3/1000 strokes : +-1.0

Check tolerance

cm3/1000S. : <del>←</del> 4.0

BREAKAWAY

Rack travel in mm: 12.45

Rated speed rpm :

Tolerance 1/min

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 19.10.95

Test oil

: ISO 4113

Combination No. : 0 402 736 892

Injection pump

Pump designation : PES6P120A120RS7400

EP type number : 0 412 726 950

Governor

Governer design. : RQV350...1100PA1244

: -1K

Governer no.

: D 421 815 488

Cust. part No. : 3282610

Customer-spec. information

Customer : CUMMINS Motor

: 6CTAA

Power KW

: 221.0

# TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

Tolerance °C

: + 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5

Tolerance l/h: + 20.0

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

bar

208.5

Tolerance bar

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter :

2.0

x length mm : 600

#### REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

# BEGINNING OF DELIVERY

26.0 Test pressure bar : Tolerance bar : + 1.0

Prestroke mm 3.30 : + - 0.05Tolerance mm

test only : ← 0.10

Rack travel in mm: 20.50 Tolerance mm :  $\leftarrow 0.50$ 

Firing order : 1-5-3-6-2-

: 4

: 0-60-120-180-240 Phasing

: -300

Toterance : + 0.30

Check

tolerance °NW : +- 0.50

Start of delivery blocking

\*NW after s.o.d. : 11.00 Tolerance : +- 0.50

Check

tolerance "NW : + 0.75

Barrel no. : 1

#### BASIC SETTING

Rated speed rpm :

7100

Rack travel in mm: 14.60

Tolerance mm:  $\div$  0.05

Del. quantity cm3/1000 strokes : 209.0	guide sleeve travel mm : 13.50 Tolerance mm : + 0.50
Tolerance cm3/1000 strokes : +- 1.0	GUIDE SLEEVE POSITION
Check tolerance cm3/1000s. : +- 4.0	Rated speed rpm : 1220
Spreed Tolerance cm3/1000 strokes : 5.0	Rack travel in mm : 13.60 Tolerance mm : +- 1.30
Check tolerance cm3/1000S. : 9.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Rated speed rpm : 350	Rated speed rpm : 1100 Aneroid pressure hPa : 1500
Rack travel in mm: 4.80 Tolerance mm: + 0.30 Del. quantity	hPa : 1500 Del. quantity cm3/1000 strokes : 209.0 Tolerance
27/4000 phosting # 35.0	cm3/1000 strokes : + 1.0 Check tolerance
cm3/1000 strokes : + 3.0 + Check tolerance +	cm3/1000s. : + 4.0 Spreed
cm3/1000S. : + 5.0 + 5.0 Tolerance	Tolerance cm3/1000 strokes : 5.0 Check tolerance
cm3/1000 strokes : 7.0	cm3/1000s. : 9.0
cm3/1000s. : 11.0	
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	control lever position degree : 66.0
GUIDE SLEEVE TRAVEL	tolerance degree : +- 4.0 control lever
Rated speed rpm : 350 guide sleeve travel mm : 1.93	position degree : 120.0 tolerance degree : +- 4.0
Tolerance mm : + 0.20	RATED SPEED
Rated speed rpm : 1159 guide sleeve travel mm : 10.28 Tolerance mm : + 0.15	rack travel mm : 13.60 Rated speed rpm : 1145 Tolerance 1/min : +- 5
Rated speed rpm : 710 guide sleeve	rack travel mm : 4.00 Rated speed rpm : 1245 Tolerance 1/min : +- 15
travel mm : 5.80 Tolerance mm : +- 0.25	rack travel mm : 0.50 Tolerance mm : + 0.50
Rated speed rpm : 430 guide sleeve	Rated speed rpm : 1350
travel mm : 4.33 Tolerance mm : +- 0.25	1011 TOLE
Rated speed rpm : 1380	LOW IDLE

		L.
control lever position degree tolerance degree	: 73.0 : + 4.0	Pressure hPa : 880 rack travel mm : 13.20 Tolerance mm : +- 0.20
control lever position degree tolerance degree		Pressure hPa : 240 rack travel mm : 11.20 Tolerance mm : +- 0.05
Testing:		
Rated speed rpm rack travel mm Tolerance mm	: 4.80	START CUT-OUT  Rated speed rpm : < 280 Check speed 1/min : < 300
Rated speed rpm	: 250	Speed Triarity
CRT mm min.	: > 8.10	FUEL DELIVERY CHARACTERISTICS
Rated speed rpm	: 350	Aneroid pressure hPa : 1500 Rated speed rpm : 750
TORQUE CONTROL		Del. quantity  cm3/1000 strokes : 198.0
Rated speed rpm rack travel mm Tolerance mm	: 14.60	Tolerance + cm3/1000 strokes : +- 3.0 + Check tolerance
Rated speed rpm rack travel mm	: 750	cm3/1000s. : + 6.0 Spreed Tolerance
Tolerance mm	: ← 0.10	cm3/1000 strokes : 8.0 Check tolerance
Rated speed rpm rack travel mm Tolerance mm	: 14.35	cm3/1000s. : 12.0  Aneroid pressure
Rated speed rpm rack travel mm	: 600	hPa : - Rated speed rpm : 500 Del. quantity
Tolerance mm		cm3/1000 strokes : 111.0 + Tolerance 
ANEROID/ALTITUDE COMPENSATOR TEST		Check tolerance cm3/1000s. : +- 4.0
SETTING		BREAKAWAY
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 1500 : 14.60	Rack travel in mm: 13.60 Rated speed rpm: 1145 Tolerance 1/min: +- 5
MEASUREMENT		<b>†</b>
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: 10.45	STARTING FUEL DELIVERY  Rated speed rpm : 100 rack travel mm : 12.00
		+ Tolerance mm : + 0.50

Rated speed rpm : 1100

Del. quantity cm3/1000 strokes : 255.0 Tolerance

cm3/1000 strokes : +- 20.0Check tolerance

cm3/1000s. : +- 24.0

# LOW IDLE

Rated speed rpm 350 4.80 rack travel mm : + 0.30 Tolerance mm

Del. quantity

cm3/1000 strokes : 25.0

Toleranté

cm3/1000 strokes : +-3.0

Check tolerance

cm3/100GS. 5.0

Spreed

Tolerance

7.0 cm3/1000 strokes :

Check tolerance

cm3/1000s. 11.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 23.10.95 : ISO 4113

Combination No. : 0 402 736 893

Injection pump

Pump designation : PES6P120A120RS7400

EP type number : 0 412 726 950

Governor

Governer design. : RQV350...1100PA1244

: -2K

Governer no.

: 0 421 815 489

Cust. part No. : 3282609

Customer-spec. information

Customer Motor

: CUMMINS : 6CTAA

Power KW

: 206.0

#### TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

Tolerance °C

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5

Tolerance l/h: + 20.0

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

bar

Tolerance bar : + 1.5

208.5

Test lines : 1 680 750 008

N16

Outside diameter : 6.0

x inside diameter :

2.0

x length mm

: 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar :

Tolerance bar : + 1.0

Prestroke mm 3.30 : +- 0.05 Tolerance mm

test only : +- 0.10

Rack travel in mm : 20.50

Tolerance mm : +- 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

: + 0.30 Tolerance

Check

tolerance °NW : +- 0.50

Start of delivery blocking

\*NW after s.o.d. : 11.00 : +- 0.50 Tolerance

Check

tolerance °NW

: +- 0.75

Barrel no.

: 1

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm: 14.40

Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 211.0	guide sleeve travel mm : 13.50 Tolerance mm : +- 0.50
Tolerance cm3/1000 strokes : +- 1.0	CULTUS OF SELECTION
Check tolerance	- GUIDE SLEEVE POSITION
cm3/1000s. : +- 4.0	Rated speed rpm : 1215
Spreed	Rack travel in mm: 13.30
Tolerance	+ Tolerance mm : +- 1.30
cm3/1000 strokes : 5.0	
Check tolerance	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000s. : 9.0	Total constitution of the
	Rated speed rpm : 1050
Rated speed rpm : 350	+ Aneroid pressure
- 4	hPa : 1500
Rack travel in mm: 4.80	+ Del. quantity
Tolerance mm : +- 0.30	cm3/1000 strokes : 211.0
Del. quantity	+ Tolerance
cm3/1000 strokes : 25.0	+ cm3/1000 strokes : +- 1.0
Tolerance cm3/1000 strokes : +- 3.0	+ Check tolerance + cm3/1000s. : +- 4.0
	+ cm3/1000s. : +- 4.0 + Spreed
Check tolerance cm3/1000s. : +- 5.0	+ Tolerance
Spreed	+ cm3/1000 strokes : 5.0
Tolerance	Check tolerance
cm3/1000 strokes : 7.0	+ cm3/1000s. : 9.0
Check tolerance	I (1107 1000).
cm3/1000s. : 11.0	
1107 100001	
	+ CONTROL LEVER
(B) SETTING OF INJECTION PUMP	+
WITH GOVERNOR	control lever
	+ position degree : 66.0
	+ tolerance degree : +- 4.0
GUIDE SLEEVE TRAVEL	+
	+ control lever
Rated speed rpm : 350	position degree : 120.0
guide sleeve	tolerance degree : +- 4.0
travel mm : 1.93	+
Tolerance mm : + 0.20	+ RATED SPEED
Data di mara di mara di AAFO	47 /0
Rated speed rpm : 1159	rack travel mm : 13.40
guide sleeve	Rated speed rpm : 1145  + Tolerance 1/min : + 5
travel mm : 10.28	Tolerance 1/min : + 5
Tolerance mm : + 0.15	Track travel mm : 4.00
Rated speed rpm : 710	
Rated speed rpm : 710 guide sleeve	+ Rated speed rpm : 1245 + Tolerance 1/min : + 15
travel mm : 5.79	T loterance main . 1
Tolerance mm : +- 0.25	rack travel mm : 0.50
rocerance and the contract	Tolerance mm : + 0.50
Rated speed rpm : 430	Rated speed rpm : 1350
guide sleeve	Traces speed (pm)
travel mm : 4.33	1
Tolerance mm : + 0.25	
TO CONTROL ORD A TO MAKE	LOW IDLE
Rated speed rpm : 1380	+

control lever position degree tolerance degree	: 74.0 : +- 4.0	Pressure hPa : 240 rack travel mm : 11.20 Tolerance mm : + 0.05
control lever position degree tolerance degree	: 20.0 : +- 4.0	START CUT-OUT
Testing:		Rated speed rpm : < 280 Check speed 1/min : < 300
Rated speed rpm rack travel mm Tolerance mm	: 4.80	FUEL DELIVERY CHARACTERISTICS
Rated speed rpm		Aneroid pressure
CRT mm min.	: > 8.20	+ hPa : 1500 + Rated speed rpm : 650 + Del. quantity
Rated speed rpm	: 350	cm3/1000 strokes : 197.0 Tolerance
TORQUE CONTROL		cm3/1000 strokes : +- 3.0 Check tolerance
Rated speed rpm rack travel mm	: 14.40	cm3/1000s. : +- 6.0 Spreed Tolerance
Tolerance mm	: +- 0.05	cm3/1000 strokes : 8.0 Check tolerance
Rated speed rpm rack travel mm	: 13.90	+ cm3/1000s. : 12.0
Tolerance mm Rated speed rpm		† Aneroid pressure † hPa : - + Rated speed rpm : 500
rack travel mm Tolerance mm	: 14.30	Del. quantity cm3/1000 strokes : 111.0
		Tolerance cm3/1000 strokes : + 2.0
ANEROID/ALTITUDE COMPENSATOR TEST		+ Check tolerance + cm3/1000s. : +- 4.0
SETTING		BREAKAWAY
Rated speed rpm Pressure hPa rack travel mm Tolerance mm		Rack travel in mm : 13.40 Rated speed rpm : 1145 Tolerance 1/min : + 5
MEASUREMENT		
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: – : 1050 : 10.40 : ← 0.20	STARTING FUEL DELIVERY  Rated speed rpm : 100  rack travel mm : 12.80
Rated speed rpm	: 1050	Tolerance mm : + 0.50  Del. quantity  cm3/1000 strokes : 255.0
Pressure hPa rack travel mm Tolerance mm	: 880 : 13.20 : ← 0.20	Tolerance cm3/1000 strokes : + 20.0

Check tolerance cm3/1000s. : +- 24.0

# LOW IDLE

Rated speed rpm 350 rack travel mm 4.80 Tolerance mm : **←** 0.30 Del. quantity cm3/1000 strokes : 25.0 Tolerance cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000s. 5.0 Spreed Tolerance 7.0 cm3/1000 strokes : Check tolerance cm3/1000s. 11.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 23.10.95 Test oil : ISO 4113

Combination No. : 0 402 736 894

Injection pump

Pump designation : FES6P120A120RS7400

EP type number : 0 412 726 950

Governor

Governer design. : RQV350...1200PA1261

Governer no. : 0 421 815 495

Cust. part No. : 3282766

Customer-spec. information Customer : CUMMINS

: 6CTAA Motor Power KW : 191.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C 40

Tolerance °C : + 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5

Tolerance l/h: +- 20.0

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 bar Tolerance bar : + 1.5

Test Lines : 1 680 750 008

Outside diameter :

x inside diameter :

2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

26.0 Test pressure bar :

Tolerance bar : + 1.0

Prestroke mm : 3.30Tolerance mm :  $\leftarrow 0.05$ 

test only : + 0.10

Rack travel in mm: 20.50

Tolerance mm: +- 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : ← 0.30

Check

tolerance \*NW : + 0.50

Start of delivery blocking

"NW after s.o.d. : 11.00

Tolerance :  $\leftarrow$  0.50

Check

tolerance \*NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 13.60

Tolerance mm :  $\leftarrow$  0.05

Nal ministration		l musica salamus
Del. quantity cm3/1000 strokes	. 100.0	+ guide sleeve
cms/ lood strokes	: 190.0	+ travel mm : 13.50
*		+ Tolerance mm : +- 0.50
Tolerance		†
cm3/1000 strokes	: +- 1.0	
		+ GUIDE SLEEVE POSITION
Check tolerance		+
cm3/1000s.	: +- 4.0	+ Rated speed rpm : 1350
Spreed		+ Rack travel in mm : 12.60
Tolerance		† Tolerance mm : + 1.30
cm3/1000 strokes	: 5.0	†
Check tolerance		+ FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000s.	: 9.0	+
		+ Rated speed rpm : 1150
Rated speed rpm	: 350	+ Aneroid pressure
		+ hPa : 1500
Rack travel in mm		† Del. quantity
Tolerance mm	: <b>←</b> 0.30	+ cm3/1000 strokes : 190.0
Del. quantity		† Tolerance
cm3/1000 strokes	: 25.0	+ cm3/1000 strokes : +- 1.0
Tolerance		- Check tolerance
cm3/1000 strokes	: +- 3.0	+ cm3/1000s. : + 4.0
Check tolerance		Spreed
cm3/1000s.	: +- 5.0	Tolerance
Spreed		- cm3/1000 strokes : 5.0
Tolerance		- Check tolerance
cm3/1000 strokes	: 7.0	+ cm3/1000s. : 9.0
Check tolerance		
cm3/1000s.	: 11.0	1
CIRC / 10000:		
		CONTROL LEVER
(B) SETTING OF IN	JESTIAN DUMO	T CONTINUE ELVEN
WITH GOVERNOR	GECTION FORE	- control lever
WITH GOVERNOR		position degree : 65.0
		tolerance degree : + 4.0
CUTAE CLEENE TRAVE		- T toterance degree : +- 4.0
GUIDE SLEEVE TRAV	EL	T control Lever
Dottod award awar	. 750	
Rated speed rpm	: 350	position degree : 119.0
guide sleeve	4.03	tolerance degree : +- 4.0
travel mm	: 1.93	DATES COSES
Tolerance mm	: + 0.20	RATED SPEED
	4252	10.40
Rated speed rpm	: 1258	+ rack travel mm : 12.60
guide sleeve		Rated speed rpm : 1245
travel mm	: 10.14	+ Tolerance 1/min : + 5
Tolerance mm	: ← 0.15	<b>†</b>
		+ rack travel mm : 4.00
Rated speed rpm	: 766	Rated speed rpm : 1355
guide sleeve		+ Tolerance 1/min : +- 15
travel mm	: 5.91	+
Tolerance mm	: +- 0.25	† rack travel mm : 0.50
		+ Tolerance mm : +- 0.50
Rated speed rpm	: 450	+ Rated speed rpm : 1450
guide sleeve		+
travel mm	: 4.49	
Tolerance mm	: ← 0.25	
- Paradient 1999		LOW IDLE
Rated speed rpm	: 1520	
marca apaca i pili	. 1760	· ·

1	
control lever	· Pressure hPa : 240
position degree : 76.0	rack travel mm : 11.20
tolerance degree : + 4.0	Tolerance mm : +- 0.05
control lever	
position degree : 22.0	START CUT-OUT
tolerance degree : +- 4.0 +	
Testing:	Rated speed rpm : < 280 Check
reserve.	speed 1/min : < 300
Rated speed rpm : 350	
rack travel mm : 4.80 Tolerance mm : +- 0.10	FUEL DELIVERY CHARACTERISTICS
Toterance min	TOLL DELIVERY CHARACTERISTICS
Rated speed rpm : 250	Aneroid pressure
CRT mm min. :> 9.20	hPa : 1500 Rated speed rpm : 600
CIVI HER HALL.	Del. quantity
Rated speed rpm : 350	cm3/1000 strokes : 176.0
	Tolerance cm3/1000 strokes : +- 3.0
TORQUE CONTROL	Check tolerance
	cm3/1000s. : + 6.0
Rated speed rpm : 1150	Spreed
rack travel mm : 13.60 + Tolerance mm : + 0.05	Tolerance cm3/1000 strokes : 8.0
Total arise light	Check tolerance
Rated speed rpm : 600	cm3/1000s. : 12.0
rack travel mm : 13.10 + Tolerance mm : + 0.10 +	Aneroid pressure
roterance in . += 0.10	hPa : -
Rated speed rpm : 750	Rated speed rpm : 500
rack travel mm : 13.70 + Tolerance mm : +- 0.15 +	Del. quantity cm3/1000 strokes : 111.0
Tolerance mm : + 0.15	cm3/1000 strokes : 111.0 Tolerance
	cm3/1000 strokes : + 2.0
ANEROID/ALTITUDE +	Check tolerance
COMPENSATOR TEST	cm3/1000S. : ← 4.0
1	
SETTING	BREAKAWAY
Rated speed rpm : 1150	
Pressure hPa : 1500 +	Rack travel in mm : 12.60
rack travel mm : 13.60 + Tolerance mm : + 0.05 +	Rated speed rpm : 1245 Tolerance 1/min : + 5
Tolerance mm : $\leftarrow$ 0.05	Toterance shining : + 3
MEASUREMENT	
Pressure hPa : -	STARTING FUEL DELIVERY
Rated speed rpm : 1150	
rack travel mm : 10.40	Rated speed rpm : 100
Tolerance mm : + 0.20	rack travel mm : 12.10 Tolerance mm : + 0.50
Rated speed rpm : 1150 +	Del. quantity
+	cm3/1000 strokes : 255.0
Pressure hPa : 880 + rack travel mm : 13.20 +	Tolerance : +- 20.0
Tolerance mm : + 0.20	oner 1000 ou onco
·	

Check tolerance		
cm3/1000s.	: +	- 24.0

٠	UM.	TDI	-
	1 11.1	1111	•

		750
:		350
:		4.80
:	+-	0.30
:		25.0
:	+-	3.0
:	+-	5.0
:		7.0
:		11.0
	•••••••	:::+ + ::::

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 20.10.95 Test oil : ISO 4113

Combination No. : 0 403 466 156

Injection pump

Pump designation : PES6MW100/120RS1238

EP type number : 0 413 406 237

Governor

Governer design. : RSV450...1100MW2A374

Governer no. : 0 420 085 257

Cust. part No. : 3926881

Customer-spec. information

Customer : CDC

Motor : 6 CT-830 Power KW : 160.0

# TEST BENCH REQUIREMENTS

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar :  $\div$  1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

# BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 2.80
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance "NW : + 0.75

Start of delivery blocking

"NW after s.o.d. : 8.00

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 11.90Tolerance mm : +0.05

Del. quantity

cm3/1000 strokes : 143.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 4.0

P	+		
Spreed Tolerance	†	CONTROL LEVER	
cm3/1000 strokes	: 4.0	CONTROL LEVER	
Chiese Tobo Ser Ones	. 4.0	control lever	
Check tolerance		position degree	: 104.0
2 14000-	: 7.5	tolerance degree	
	+	-	
Rated speed rpm	: 450 +	RATED SPEED	
			40.00
Rack travel in mm		rack travel mm	
Tolerance mm Del. quantity	: +- 0.30	Rated speed rpm Tolerance 1/min	
cm3/1000 strokes	: 12.0 I	Toterance Trimin	. + )
Tolerance		rack travel mm	: 4.00
cm3/1000 strokes	: 2.0	Rated speed rpm	
Check tolerance	+	Tolerance 1/min	
cm3/1000s.	: + 4.5		
Spreed	+	rack travel mm	: 0.85
Tolerance	†	Tolerance mm	: ← 0.55
cm3/1000 strokes	: 3.5	Rated speed rpm	: 1400
Check tolerance cm3/1000s.	: 5.5	rack travel mm	: 4.00
Chis/ rudus.	· 3.3	Rated speed rpm	
	<u> </u>	naced speed (pill	. 1223
(B) SETTING OF INJE	ECTION PUMP		
WITH GOVERNOR	+		
	+	LOW IDLE	
	+		
CUINE OF FELLE DOCTES	7081	control lever	
GUIDE SLEEVE POSITI	ION	position degree	: 82.0
Rated speed rpm :	: 800 I	tolerance degree	
nated opera row	. 555	totor ante degree	
Rack travel in mm :	: 0.65	Testing:	
Tolerance mm :	+ 0.35		
	+	Rated speed rpm	
governor spring	†	rack travel mm	
pre-tension	: 4.75	Tolerance mm	: ← 0.10
click setting x :	1	Rated speed rpm	: 100
		Mateu Speed I pili	. ,00
FULL LOAD DELIVERY	AT FULL LOAD STOP	CRT mm min.	: > 19.50
	+		
Rated speed rpm :	1100	***************************************	
Aneroid pressure	1400	TORQUE CONTROL	
hPa :	1100	Rated speed rpm	: 1100
cm3/1000 strokes :	143.0	rack travel mm	: 11.90
Tolerance	143.0	Tolerance mm	· + 0.05
	+ 1.0		
Check tolerance	1	Rated speed rpm	: 750
cm3/1000s. :	+ 4.0	rack travel mm	: 12.40
Spreed	+	Tolerance mm	: +- 0.10
Tolerance	†		
cm3/1000 strokes :	4.0	AMEDATA /AL TITUAT	
Check tolerance cm3/1000s. :	7.5	ANEROID/ALTITUDE COMPENSATOR TEST	
CH3/ 10000.	ı I	CON LIBERTON TEST	
	1		
	1		

# SETTING

Rated speed rpm	:	500
Pressure hPa	:	1100
rack travel mm	:	12.45
Tolerance mm	:	<b>←</b> 0.05

# **MEASUREMENT**

Pressure hPa	:		-
Rated speed rpm	:		500
rack travel mm	:		10.50
Tolerance mm	:	+	0.05

Rated	speed	rpm	:	500
-------	-------	-----	---	-----

Pressure hPa	:		850
rack travel mm	:		12.00
Tolerance mm	:	+-	0.20

Pressure hPa	:		625
rack travel mm	:		11.00
Tolerance mm	:	+	0.10

# FUEL DELIVERY CHARACTERISTICS

# Aneroid pressure

hPa		1100
Rated speed rpm	:	750
Del. quantity		
cm3/1000 strokes	;	154.
and a		

cms/ludu strokes	;	124.0
Tolerance		
cm3/1000 strokes	: +	- 2.0

111101 1000 001 01100	•	
Check tolerance		
cm3/1000s.	: +-	5.0

# Spreed Tolerance rm3/1000 strokes : 6.8

CHOLLONG STLOKES	•	0.0
Check tolerance		
cm3/1000s.	:	9.0

# Aneroid pressure hPa : Rated speed rpm : 500 Del. quantity

cm3/1000 strokes	:	115.0
Tolerance		

cm3/1000 strokes	:	+-	1.0
Check tolerance			
cm3/1000s.	:	+-	4.0

# BREAKAWAY

Rack travel in mm	:	10.90
Rated speed rpm	:	1150
Tolerance 1/min	:	+- 5

# STARTING FUEL DELIVERY

Rated speed rpm	: 100	
rack travel mm	: 20.00	
Tolerance mm	: + 1.00	
Del. quantity		
cm3/1000 strokes	: 170.0	
Tolerance		
cm3/1000 strokes	: +- 10.0	
Check tolerance		
cm3/1000s.	: +- 13.0	

# LOW IDLE

Rated speed rpm rack travel mm Tolerance mm	; ; +-	450 5.30 0.30
Del. quantity cm3/1000 strokes	:	12.0
Tolerance cm3/1000 strokes	: +-	2.0
Check tolerance cm3/1000s.	: +-	4.5
Spreed Tolerance		
cm3/1000 strokes Check tolerance	:	3.5
cm3/1000s.	:	5.5